Author-Title Index for Volume 103

A

Adamson IR, Prieditis HL: Response of mouse lung to carbon deposition during injury and repair, 72–76
Anderson HA. *See* Knobeloch LM
Andrews KW. *See* Savitz DA
Aro ACA. *See* Hoppin JA
Asiedu P, Moulton T, Blum CB, Roldan E, LoIacono NJ, Graziano JH: Metabolism of meso-2,3-dimercaptosuccinic acid in lead-poisoned children and normal adults, 734–739
Au WW, Lane RG, Legator MS, Whorton EB, Wilkinson GS, Gabehart GJ: Biomarker monitoring of a population residing near uranium mining activities, 466–470

B

Barrett JC. Response [to Shubik] (letter), 220. *See also* Fung VA
Bascom R, Kesavanathan J, Fitzgerald TK, Cheng K-H, Swift DL: Sidestream tobacco smoke exposure acutely alters human nasal mucociliary clearance, 1026–1031
Bates DV. *See* Pope CA III
Bauman PC, Harshbarger JC: Decline in liver neoplasms in wild brown bullhead catfish after coking plant closes and environmental PAHs plummet, 168–170
Beaumont LF. *See* Webber CE
Beck BD, Boardman PD, Hook GC, Rudel RA, Slayton TM, Carlson-Lynch H: Response [to Smith et al.] (letter), 15–16
Beckett WS, Russi MB, Haber AD, Rivkin RM, Sullivan JR, Tameroglu Z, Mohsenin V, Leaderer BP: Effect of nitrous acid on lung function in asthmatics: a chamber study, 372–375
Bellinger D. *See* Kim R
Bergeron J, Crews D, McLachlan JA: Response [to Hamilton] (letter), 12
Biggs ML. *See* Smith AH
Bindoula G. *See* Houeto P
Birnbaum LS. *See* DeVito MJ
Blake JM. *See* Webber CE
Bloemen L. *See* Ramlow J
Blum CB. *See* Asiedu P
Boardman PD. *See* Beck BD
Bove F. *See* Cohn PD
Bowins RJ. *See* Webber CE
Boyer R, Grue CE: The need for water quality criteria for frogs, 352–357
Brauer M, Dumyahn TS, Spengler JD, Gutschmidt K, Heinrich J, Wichmann H-E: Measurement of acidic aerosol species in eastern Europe: implications for air pollution epidemiology, 482–488
Briggs PM. *See* Shy CM
Brotons JA, Olea-Serrano MF, Villalobos M, Pedraza V, Olea N: Xenoestrogens released form lacquer coatings in food cans, 608–612
Brotons JA. *See* Villalobos M
Brown HS, Goble R, Kirschner H: Social and environmental factors in lung cancer mortality in post-war Poland, 64–70
Brown NM, Lamartiniere CA: Xenoestrogens alter mammary gland differentiation and cell proliferation in the rat, 708-713
Buck GM. *See* Mendola P
Buiatti E. *See* Merler E
Burton RM. *See* Sioutas C

C

Cairns J Jr: Ecosystem services: an essential component of sustainable use (editorial), 534; Palmer SE: Restoration of urban waterways and vacant areas: the first steps toward sustainability, 452–453
Calabrese EJ, Stanek EJ III: Resolving intertracer inconsistencies in soil ingestion estimation, 454–457. *See also* Stanek EJ III
Caporaso N. *See* Vineis P
Carlson-Lynch H. *See* Beck BD
Carreon T. *See* Romieu I
Castonguay A, Overby L, Nettesheim P, Clark GC, Philpot RM: Expression of xenobiotic-metabolizing enzymes in cultured rat tracheal epithelial cells, 254–258
Castranova V. *See* Vallythan V
Cernichiari E. *See* Zareba G
Chan HM, Kim C, Khoday K, Receveur O, Kuhnlein HV: Assessment of dietary exposure to trace metals in Baffin Inuit food, 740–746
Chanda S. *See* Mangipudy RS
Chang C-Y. *See* Yao Y
Charazy M. *See* Øvrebø S
Cheng K-H. *See* Bascom R
Cherian MG. *See* Goyer RA
Chettle DR. *See* Webber CE
Clark GC. *See* Castonguay A
Clarkson TW. *See* Zareba G
Cohen R. *See* Kordysh EA
Cohn PD, Klotz JB, Bove F, Fagliano J: Response [to Ramlow et al.] (letter), 540–541
Courant PN. *See* Warner KE
Crews D. *See* Bergeron J
Crocetti AF. *See* Mushak P
Cserhati T: Alkyl ethoxylated and alkylphenol ethoxylated nonionic surfactants: interaction with bioactive compounds and biological effects, 358–364

D

Davis J. *See* Styer P
Deadman JE. *See* Levallois P
Degnan D. *See* Shy CM
Densmore CL. *See* Markaverich BM
DeSwart RL. *See* Ross PS
DeVito MJ, Birnbaum LS, Farland WH, Gasiewicz TA: Comparisons of estimated human body burdens of dioxinlike chemicals and TCDD body burdens in experimentally exposed animals, 820–831
Dieter MP. Review, the crux of science: (editorial), 130; Quantum leaps in technology transfer (editorial), 642–643
Divine G. *See* Upfal M
Dodson VN. *See* Knobeloch LM
Dopp E, Saedler J, Stopper H, Weiss DG, Schiffmann D: Mitotic disturbances and micronucleus induction in Syrian hamster embryo fibroblast cells caused by asbestos fibers, 268–271
Drew RT: Misunderstood MTBE (letter), 420
Dumyahn TS. *See* Brauer M

E

Eilertsen E. *See* Kristensen P
Einarsdóttir E. *See* Kristensen P

F

Fagliano J: *See* Cohn PD
Fajen JM. *See* Ward EM
Farland WH. *See* DeVito MJ
Fenske RA. *See* Simcox NJ
Festing MFW: Use of a multistrain assay could improve the NTP carcinogenesis bioassay, 44–52
Finkel AM: Toward less misleading comparisons of uncertain risks: the example of aflatoxin and alar, 376–385
Fisher JS. *See* Sharpe RM
Fisher M: Intriguing innovation (letter), 1080–1081
Fitzgerald TK. *See* Bascom R
Fjeldstad PE. *See* Øvrebø S
Flanders WD. *See* Rosen DH
Forattini OP: Malaria carriers (letter), 1081
Forest W: What's in a name? (letter), 1080
Fox DL. *See* Shy CM
French JE. *See* Tennant RW
Friede A. *See* Rosen DH
Fung VA, Barrett JC, Huff J: The carcinogenesis bioassay in perspective: application in identifying human cancer hazards, 680-683

G

Gabehart GJ. *See* Au WW
Gao F. *See* Styer P
Gasiewicz TA. *See* DeVito MJ
Gauvin D. *See* Levallois P
Genter MB. *See* Lucier GW
Gingras S. *See* Levallois P
Ginsburg I: Inflammation: more than one explanation (letter), 985
Glaser ED. *See* Goren AI
Goble R. *See* Brown HS
Goehl TJ. Alchemists and toxicants: (editorial), 218; Nobody said it would be easy (editorial), 1079
Goehlecke BA. *See* Shy CM
Goldsmith JR. *See* Kordysh EA
Goldsmith LA. *See* Zareba G
Goldsworthy TL. *See* Standeven AM

Author-Title Index for Volume 103

A

Adamson IR, Prieditis HL: Response of mouse lung to carbon deposition during injury and repair, 72–76
Anderson HA. *See* Knobeloch LM
Andrews KW. *See* Savitz DA
Aro ACA. *See* Hoppin JA
Asiedu P, Moulton T, Blum CB, Roldan E, LoIacono NJ, Graziano JH: Metabolism of meso-2,3-dimercaptosuccinic acid in lead-poisoned children and normal adults, 734–739
Au WW, Lane RG, Legator MS, Whorton EB, Wilkinson GS, Gabehart GJ: Biomarker monitoring of a population residing near uranium mining activities, 466–470

B

Barrett JC. Response [to Shubik] (letter), 220. *See also* Fung VA
Bascom R, Kesavanathan J, Fitzgerald TK, Cheng K-H, Swift DL: Sidestream tobacco smoke exposure acutely alters human nasal mucociliary clearance, 1026–1031
Bates DV. *See* Pope CA III
Bauman PC, Harshbarger JC: Decline in liver neoplasms in wild brown bullhead catfish after coking plant closes and environmental PAHs plummet, 168–170
Beaumont LF. *See* Webber CE
Beck BD, Boardman PD, Hook GC, Rudel RA, Slayton TM, Carlson-Lynch H: Response [to Smith et al.] (letter), 15–16
Beckett WS, Russi MB, Haber AD, Rivkin RM, Sullivan JR, Tameroglu Z, Mohsenin V, Leaderer BP: Effect of nitrous acid on lung function in asthmatics: a chamber study, 372–375
Bellinger D. *See* Kim R
Bergeron J, Crews D, McLachlan JA: Response [to Hamilton] (letter), 12
Biggs ML. *See* Smith AH
Bindoula G. *See* Houeto P
Birnbaum LS. *See* DeVito MJ
Blake JM. *See* Webber CE
Bloemen L. *See* Ramlow J
Blum CB. *See* Asiedu P
Boardman PD. *See* Beck BD
Bove F. *See* Cohn PD
Bowins RJ. *See* Webber CE
Boyer R, Grue CE: The need for water quality criteria for frogs, 352–357
Brauer M, Dumyahn TS, Spengler JD, Gutschmidt K, Heinrich J, Wichmann H-E: Measurement of acidic aerosol species in eastern Europe: implications for air pollution epidemiology, 482–488
Briggs PM. *See* Shy CM
Brotons JA, Olea-Serrano MF, Villalobos M, Pedraza V, Olea N: Xenoestrogens released form lacquer coatings in food cans, 608–612
Brotons JA. *See* Villalobos M
Brown HS, Goble R, Kirschner H: Social and environmental factors in lung cancer mortality in post-war Poland, 64–70
Brown NM, Lamartiniere CA: Xenoestrogens alter mammary gland differentiation and cell proliferation in the rat, 708-713
Buck GM. *See* Mendola P
Buiatti E. *See* Merler E
Burton RM. *See* Sioutas C

C

Cairns J Jr: Ecosystem services: an essential component of sustainable use (editorial), 534; Palmer SE: Restoration of urban waterways and vacant areas: the first steps toward sustainability, 452–453
Calabrese EJ, Stanek EJ III: Resolving intertracer inconsistencies in soil ingestion estimation, 454–457. *See also* Stanek EJ III
Caporaso N. *See* Vineis P
Carlson-Lynch H. *See* Beck BD
Carreon T. *See* Romieu I
Castonguay A, Overby L, Nettesheim P, Clark GC, Philpot RM: Expression of xenobiotic-metabolizing enzymes in cultured rat tracheal epithelial cells, 254–258
Castranova V. *See* Vallythan V
Cernichiari E. *See* Zareba G
Chan HM, Kim C, Khoday K, Receveur O, Kuhnlein HV: Assessment of dietary exposure to trace metals in Baffin Inuit food, 740–746
Chanda S. *See* Mangipudy RS
Chang C-Y. *See* Yao Y
Charazy M. *See* Øvrebø S
Cheng K-H. *See* Bascom R
Cherian MG. *See* Goyer RA
Chettle DR. *See* Webber CE
Clark GC. *See* Castonguay A
Clarkson TW. *See* Zareba G
Cohen R. *See* Kordysh EA
Cohn PD, Klotz JB, Bove F, Fagliano J: Response [to Ramlow et al.] (letter), 540–541
Courant PN. *See* Warner KE
Crews D. *See* Bergeron J
Crocetti AF. *See* Mushak P
Cserhati T: Alkyl ethoxylated and alkylphenol ethoxylated nonionic surfactants: interaction with bioactive compounds and biological effects, 358–364

D

Davis J. *See* Styer P
Deadman JE. *See* Levallois P
Degnan D. *See* Shy CM
Densmore CL. *See* Markaverich BM
DeSwart RL. *See* Ross PS
DeVito MJ, Birnbaum LS, Farland WH, Gasiewicz TA: Comparisons of estimated human body burdens of dioxinlike chemicals and TCDD body burdens in experimentally exposed animals, 820–831
Dieter MP. Review, the crux of science: (editorial), 130; Quantum leaps in technology transfer (editorial), 642–643
Divine G. *See* Upfal M
Dodson VN. *See* Knobeloch LM
Dopp E, Saedler J, Stopper H, Weiss DG, Schiffmann D: Mitotic disturbances and micronucleus induction in Syrian hamster embryo fibroblast cells caused by asbestos fibers, 268–271
Drew RT: Misunderstood MTBE (letter), 420
Dumyahn TS. *See* Brauer M

E

Eilertsen E. *See* Kristensen P
Einarsdóttir E. *See* Kristensen P

F

Fagliano J: *See* Cohn PD
Fajen JM. *See* Ward EM
Farland WH. *See* DeVito MJ
Fenske RA. *See* Simcox NJ
Festing MFW: Use of a multistrain assay could improve the NTP carcinogenesis bioassay, 44–52
Finkel AM: Toward less misleading comparisons of uncertain risks: the example of aflatoxin and alar, 376–385
Fisher JS. *See* Sharpe RM
Fisher M: Intriguing innovation (letter), 1080–1081
Fitzgerald TK. *See* Bascom R
Fjeldstad PE. *See* Øvrebø S
Flanders WD. *See* Rosen DH
Forattini OP: Malaria carriers (letter), 1081
Forest W: What's in a name? (letter), 1080
Fox DL. *See* Shy CM
French JE. *See* Tennant RW
Friede A. *See* Rosen DH
Fung VA, Barrett JC, Huff J: The carcinogenesis bioassay in perspective: application in identifying human cancer hazards, 680-683

G

Gabehart GJ. *See* Au WW
Gao F. *See* Styer P
Gasiewicz TA. *See* DeVito MJ
Gauvin D. *See* Levallois P
Genter MB. *See* Lucier GW
Gingras S. *See* Levallois P
Ginsburg I: Inflammation: more than one explanation (letter), 985
Glaser ED. *See* Goren AI
Goble R. *See* Brown HS
Goehl TJ. Alchemists and toxicants: (editorial), 218; Nobody said it would be easy (editorial), 1079
Goehlecke BA. *See* Shy CM
Goldsmith JR. *See* Kordysh EA
Goldsmith LA. *See* Zareba G
Goldsworthy TL. *See* Standeven AM

Gordon CL. *See* Webber CE
Goren AI, Hellmann S, Glaser ED: Use of outpatient clinics as a health indicator for communities around a coal-fired power plant, 1110–1115
Gorodischer R. *See* Kordysh EA
Goyer RA: Chelation of toxic metals: current interests, 988–989; Cherian MG, Jones MM, Reigart JR: Role of chelating agents for prevention, intervention, and treatment of exposures to toxic metals, 1048–1052
Graziano JH. *See* Asiedu P
Gregory RR. *See* Markaverich BM
Grue CE. *See* Boyer R
Grzybowska E. *See* Øvrebø S
Gutschmidt K. *See* Brauer M

H

Haber AD. *See* Beckett WS
Halperin WE. *See* Ward EM
Hamilton SB: Estrogenicity of environmental PCBs (letter), 12
Hardy TS, Weill H: Crystalline silica: risks and policy, 152–155
Harshbarger JC. *See* Bauman PC
Haseman JK: COMPACT predictions: is there a catch? (letter), 536–537
Haugen A. *See* Kristensen P; Øvrebø S
Hawkins TR. What does decreased funding for science mean to the United States? (letter), 644
Heinrich J. *See* Brauer M
Hellmann S. *See* Goren AI
Herbarth O. Risk assessment of environmentally influenced airway diseases based on time-series analysis, 852–856
Hernandez-Avila M. *See* Romieu I
Ho A-S. *See* Maroni G
Hodgson E: Clarification: chemical syngergism (letter), 986
Hoffer A. *See* Yao Y
Hoffman JR. *See* Houeto P
Hook GC. *See* Beck BD
Hook GER, Lucier GW. Attitudes affect behavior: (editorial), 318; Toxicity and terrorism: (editorial), 418
Hopenhayn-Rich C. *See* Smith AH
Hoppin JA, Aro ACA, Williams PL, Hu H, Ryan PB: Validation of K-XRF bone lead measurement in young adults, 78–83
Houeto P, Bindoula G, Hoffman JR: Ethylenebisdithiocarbamates and ethylenethiourea: possible human health hazards, 568–573
Hu H. *See* Hoppin JA; Kim R; Smith CM
Huang H. *See* Xu X
Huff J. *See* Fung VA
Humphrey HEB. *See* Rosen DH
Huzucha MJ. *See* Shy CM

I

Ioannides C. *See* Lewis DFV

J

Jetten TH. *See* Martens WJM
Jobling S, Reynolds T, White R, Parker MG, Sumpter JP: A variety of environmentally persistent chemicals, including some phthalate plasticizers, are weakly estrogenic, 582–587. *See also* Sharpe RM
Jones MM. *See* Goyer RA

K

Kalman D. *See* Simcox NJ; Smith AH
Karmaus W, Wolf N: Reduced birthweight and length in the offspring of females exposed to PCDFs, PCP, and lindane, 1120–1125
Kelsey KT. *See* Smith CM
Kesavanathan J. *See* Bascom R
Khoday K. *See* Chan HM
Kilburn KH, Thornton JC: Protracted neurotoxicity from chlordane sprayed to kill termites, 690–694
Kim C. *See* Chan HM
Kim R, Hu H, Rotnitzky A, Bellinger D, Needleman H: A longitudinal study of chronic lead exposure and physical growth in Boston children, 952–957
Kirschner H. *See* Brown HS
Klotz JB. *See* Cohn PD
Knobeloch LM, Ziarnik M, Anderson HA, Dodson VN: Imported seabass as a source of mercury exposure: a Wisconsin case study, 604–606
Kordysh EA, Goldsmith JR, Quastel MR, Poljak S, Merkin L, Cohen R. Gorodischer R: Health effects in a casual sample of immigrants to Israel from areas contaminated by the Chernobyl explosion, 936–941
Kosma V. *See* Sakari L
Koutrakis P. *See* Sioutas C
Kristensen P, Eilertsen E, Einarsdóttir E, Haugen A, Skaug V, Øvrebø S: Fertility in mice after prenatal exposure to benzo[*a*]pyrene and inorganic lead, 588–590
Kuhnlein HV. *See* Chan HM
Kure EH. *See* Øvrebø S

L

Lamartiniere CA. *See* Brown NM
Lane RG. *See* Au WW
Lang S, Servomaa K, Kosma V-M, Rytömaa T: Biokinetics of nuclear fuel compounds and biological effects of nonuniform radiation, 920–933
Lao YJ. *See* Lucier GW
Leaderer BP. *See* Beckett WS
LeBlanc GA. Are environmental sentinels signaling? (letter), 888–890
Lee I-C. *See* Simcox NJ
Legator MS. *See* Au WW
Levallois P, Gauvin D, St-Laurent J, Gingras S, Deadman JE: Electric and magnetic field exposures for people living near a 735-kilovolt power line, 832–837
Lewis DFV, Ioannides C, Park DV: A retrospective evaluation of COMPACT predictions of the outcome of NTP rodent carcinogenicity testing, 178–184; Response [to Haseman] (letter), 537–538
Li B. *See* Xu X
Lock MD. *See* Tarter ME
LoIacono NJ. *See* Asiedu P
Lopez L. *See* Romieu I
Lucier GW: Not your average Joe (editorial), 10; Genter MB, Lao YJ, Stopford W, Starr T: Clarification [response to Drew] (letter), 420. *See also* Hook GER

M

Mangipudy RS, Chanda S, Mehendale HM: Tissue repair response as a function of dose in thioacetamide hepatotoxicity, 260–267
Manuel Y. *See* Romieu I
Markaverich BM, Webb B, Densmore CL, Gregory RR: Effects of coumestrol on estrogen receptor function and uterine growth in ovariectomized rats, 574–581
Maroni G, Ho A-S, Theodore L: Genetic control of cadmium tolerance in Drosophila melanogaster, 1116–1118
Martens WJM, Niessen LW, Rotmans J, Jetten TH, McMichael AJ: Potential impact of global climate change on Malaria risk, 458–464
McKinney JD. *See* Waller CL
McLachlan JA. *See* Bergeron J
McMichael AJ. *See* Martens WJM
McMillan N. *See* Styer P
McNutt RH. *See* Webber CE
Meggs WJ: Neurogenic switching: a hypothesis for a mechanism for shifting the site of inflammation in allergy and chemical sensitivity, 54–56
Mehendale HM. *See* Mangipudy RS
Mendez D. *See* Warner KE
Mendola P, Buck GM, Vena JE, Zielezny M, Sever LE: Consumption of PCB-contaminated sport fish and risk of spontaneous fetal death, 498–502
Mennear JH: MTBE: not carcinogenic (letter), 985–986
Mercier MJ. Chemical safety: a global challenge (editorial), 886–887
Merkin L. *See* Kordysh EA
Merler E, Buiatti E: Human toxicity of PBDDs and PBDFs (letter), 13
Merrick BA *See* Patterson RM
Millar MM. *See* Sharpe RM
Minor DL. *See* Waller CL
Mohsenin V. *See* Beckett WS
Moulton T. *See* Asiedu P
Mukerjee S. *See* Shy CM

Muscat JE, Wynder EL: Diesel engine exhaust and lung cancer: an unproven association, 812–818
Mushak P, Crocetti AF: Risk and revisionism in arsenic cancer risk assessment, 684–689

N

National Advisory Environmental Health Sciences Council: Science funding (letter), 984–985
Needleman H. *See* Kim R
Nettesheim P. *See* Castonguay A
Niessen LW. *See* Martens WJM

O

Olden K: Education: a first step in solving the planet's pollution problems (editorial), 1078
Olea N. *See* Brotons JA; Villalobos M
Olea-Serrano MF. *See* Brotons JA; Villalobos M
Osterhaus ADME. *See* Ross PS
Overby L. *See* Castonguay A
Øvrebø S, Fjeldstad PE, Grzybowska E, Kure EH, Charazy M, Haugen A: Biological monitoring of polycyclic aromatic hydrocarbon exposure in a highly polluted area of Poland, 838-843. *See also* Kristensen P

P

Palazuelos E. *See* Romieu I
Palmer SE. *See* Cairns J Jr
Parke DV. *See* Lewis DFV
Parker MG. *See* Jobling S
Pastore LM. *See* Savitz DA
Patterson RM, Selkirk JK, Merrick BA: Baculovirus and insect cell gene expression: review of baculovirus biotechnology (meeting report) 756–759
Pedraza V. *See* Brotons JA; Villalobos M
Perkins RA, Ward KW, Pollack GM: A pharmacokinetic model of inhaled methanol in humans and comparison to methanol disposition in mice and rats, 726–733
Philpot RM. *See* Castonguay A
Phiri JS. Malaria Control in Zambia and Southern Africa (letter), 645
Poljak S. *See* Kordysh EA
Pollak GM. *See* Perkins RA
Pope CA III, Bates DV, Raizenne ME: Health effects of particulate air pollution: time for reassessment? 472–480
Prieditis HL. *See* Adamson YR
Puga A. *See* Yao Y

Q

Quastel MR. *See* Kordysh EA

R

Raizenne ME. *See* Pope CA III
Ramlow J, Bloemen L: Drinking water and leukemia, 538–540
Ray RM. *See* Tarter ME
Receveur O. *See* Chan HM
Reigart JR. *See* Goyer RA
Reijnders PJH. *See* Ross PS
Ressler-Flesch CA. *See* Ward EM
Reynolds T. *See* Jobling S
Rinskyk RA. *See* Ward EM
Rios C. *See* Romieu I
Rivkin RM. *See* Beckett WS
Rodbell M. Signal transduction: evolution of an idea, 338–345
Roldan E. *See* Asiedu P
Romieu I, Carreon T, Lopez L, Palazuelos E, Rios C, Manuel Y, Hernandez-Avila M: Environmental urban lead exposure and lead levels in children of Mexico City, 1036–1040
Rosen DH, Flanders WD, Friede A, Humphrey HEB, Sinks TH: Half-life of polybrominated biphenyl in human sera, 272–274
Ross PS, DeSwart RL, Reijnders PJH, VanLoveren H, Vos JG, Osterhaus ADME: Contaminant-related suppression of delayed-type hypersensitivity and antibody responses in harbor seals fed herring from the Baltic Sea, 162–167
Rothenbacher D. *See* Shy CM
Rotmans J. *See* Martens WJM
Rotnitzky A. *See* Kim R
Rudel RA. *See* Beck BD
Ruder AM. *See* Ward EM
Ruiz de Almodovar JM. *See* Villalobos M
Russi MB. *See* Beckett WS
Ryan PB. *See* Hoppin JA
Rytömaa T. *See* Sakari L

S

Sacks J. *See* Styer P
Saedler J. *See* Dopp E
Safe SH: Environmental and dietary estrogens and human health, is there a problem? 346–351; Response [to Wolff] (letter), 785
St-Laurent J. *See* Levallois P
Savitz DA, Andrews KW, Pastore LM: Drinking water and pregnancy outcome in central North Carolina: source, amount, an trihalomethane levels, 592–596
Schiffmann D. *See* Dopp E
Selkirk JK. *See* Patterson RM
Servomaa K. *See* Lang S
Sever LE. *See* Mendola P
Sharpe RM, Fisher JS, Millar MM, Jobling S, Sumpter JP: Gestational and lactational exposure of rats to xenoestrogens results in reduced testicular size and sperm production, 1136–1143
Shubik P: Revamp the NTP bioassay (letter), 220
Shy CM, Degnan D, Fox DL, Mukerjee S, Hazucha MJ, Goehlecke BA, Rothenbacher D, Briggs PM, Devlin RB, Wallace DD, Stevens RK, Bromberg PA: Do waste in incinerators induce adverse respiratory effects? an air quality and epidemiological study of six communities, 714–724
Siemiatycki J. *See* Upfal M
Simcox NJ, Fenske RA, Wolz SA, Lee I-C, Kalman D: Pesticides in household dust and soil: exposure pathways for children of agricultural families, 1126–1134
Sinks TH. *See* Rosen DH
Sioutas C, Koutrakis P, Burton RM: A technique to expose animals to concentrated fine ambient aerosols, 172–177
Skaug V. *See* Kristensen P
Slayton TM. *See* Beck BD
Smith AH, Biggs ML, Hopenhayn-Rich C, Kalman D: Arsenic rick assessment (letter), 13–14
Smith CM, Wang X, Hu H, Kelsey KT: A polymorphism in the d-aminolevulinic acid dehydratase gene may modify the pharmacokinetics and toxicity of lead, 248–253
Song X. *See* Webber CE
Spalding JW. *See* Tennant RW
Spengler JD. *See* Brauer M
Srám RJ. The advantages of international cooperation (editorial) 782
Standeven AM, Wolf DC, Goldsworthy TL: Promotion of hepatic preneoplastic lesions in male B6C3F1 mice by unleaded gasoline, 696–700
Stanek EJ III, Calabrese EJ: Daily estimates of soil ingestion in children, 276–285. *See also* Calabrese EJ
Starr T. *See* Lucier GW
Stopford W. *See* Lucier GW
Stopper H. *See* Dopp E
Styer P, McMillan N, Gao F, Davis J, Sacks J: Effect of outdoor airborne particulate matter on daily death counts, 490–497
Sullivan JR. *See* Beckett WS
Sumpter JP. *See* Jobling S; Sharpe RM
Sutter TR: Molecular and cellular approaches to exprapolation for risk assessment, 386–389
Swift DL. *See* Bascom R

T

Tameroglu Z. *See* Beckett WS
Tarter ME, Lock MD, Ray RM: Conditional switching: a new variety of regression with many potential environmental applications, 748–755
Tennant RW, French JE, Spalding JW: Identifying chemical carcinogens and assessing potential risk in short-term bioassays using transgenic mouse models, 942–950

Theodore L. *See* Maroni G
Thornton JC. *See* Kilburn KH

U

Upfal M, Divine G, Siemiatycki J: Design issues in studies of radon and lung cancer: implications of the joint effect of smoking and radon, 58–63

V

Vallythan V, Castranova V, Weber K: Response [to Ginsburg] (letter), 985
VanLoveren H. *See* Ross PS
Vena JE. *See* Mendola P
Villalobos M, Olea N, Brotons JA, Olea-Serrano MF, Ruiz de Almodovar JM, Pedraza V: The e-screen assay: a comparison of different MCF7 cell stocks, 844-850. *See also* Brotons JA
Vineis P, Caporaso N: Tobacco and cancer: epidemiology and the laboratory, 156–160
Vos JG. *See* Ross PS

W

Wakeford R: The risk of childhood cancer from intrauterine and preconceptional exposure to ionizing radiation, 1018–1025
Wallace DD. *See* Shy CM
Waller CL, Minor DL, McKinney JD: Using three-dimensional quantitative structure-activity relationships to examine estrogen receptor binding affinities of polychlorinated hydroxybiphenyls, 702–707
Wang X. *See* Smith CM
Ward EM, Fajen JM, Ruder AM, Rinskyk RA, Halperin WE, Fessler-Flesch CA: Mortality study of workers in 1,3-butadiene production units identified from a chemical workers cohort, 598–603
Ward KW. *See* Perkins RA
Warner KE, Courant PN, Mendez D: Effects of residential moblility on individual versus population risk of radon-related lung cancer, 1144–1149
Webb B. *See* Markaverich BM
Webber CE, Chettle DR, Bowins RJ, Beaumont LF, Gordon CL, Song X, Blake JM, McNutt RH: Hormone replacement therapy may reduce the return of endogenous lead from bone to the circulation, 1150–1153
Weber K. *See* Vallythan V
Weill H. *See* Hardy TS
Weinberg CR: Potential for bias in epidemiologic studies that rely on glass-based retrospective assessment of radon, 1042–1046
Weiss DG. *See* Dopp E
White R. *See* Jobling S
Whorton EB. *See* Au WW
Wichmann H-E. *See* Brauer M
Wilkinson GS. *See* Au WW
Williams PL. *See* Hoppin JA
Wolf DC. *See* Standeven AM
Wolf N. *See* Karmaus W
Wolff MS: Environmental estrogens (letter), 784
Wolz SA. *See* Simcox NJ
Wynder EL. *See* Muscat JE

X

Xu X, Li B, Huang H: Air pollution and unscheduled hospital outpatient and emergency room visits, 286–289

Y

Yao Y, Hoffer A, Chang C-Y, Puga A: Dioxin activates HIV-1 gene expression by an oxidative stress pathway requiring a functional cytochrome P450 CYP1A1 enzyme, 366–371

Z

Zareba G, Cernichiari E, Goldsmith LA, Clarkson TW: Biological monitoring of iodine, a water disinfectant for long-term space missions, 1032–1035
Ziarnik M. *See* Knobeloch LM
Zielezny M. *See* Mendola P
Zoepfl FJ: We stand corrected (letter), 220

Subject Index for Volume 103

A

acetaldehyde, carcinogenicity of, 601
acetaminophen, carcinogenicity of, 182
acetylcholinesterase, 433
N-acetyltransferase, 158
acidification, 353
acid rain
  in Europe, 443
  in Japan, 438
  from livestock operations, 1099
actinide elements, behavior in organ systems, 923–925
active oxygen hypothesis, 232
acute lymphocytic leukemia, 1004
additivity, 142, 143
adducts. *See* DNA adducts; hemoglobin, adducts
adenylate cyclase system, 338
adipic acid, synthesis of, 564
adipose tissue, storage of toxicants in, 273
adriamycin, 361
Advanced Research Projects Agency Network, 148
advertising, truth in, 329
aerosols
  acid in eastern Europe, 482–488
  exposure to, 172–177
Affymetrix, 244
aflatoxin
  effect on chloramphenicol acetyltransferase expression, 367
  risk assessment of, 376–384
  role in liver cancer, 899
Africa, malaria risk in, 460
Agency for International Development, U.S., 1095
Agency for Toxic Substances and Disease Registry, Internet sites, 323
Agenda 21, 27
Agent Orange, 222. *See also* dioxin
aging, genetic effects, 20
Agricultural Health Study, 1000
agriculture
  effect of GATT on U.S., 242
  impact of environment on, 788
  Joint Food and Agricultural Organization, 743
  Middle East Health Study, 22
  occupational exposures, 272, 432, 1126–1134
  and population growth, 1093, 1094
  sustainable, 29
Ah receptor, 237, 822, 824
  binding in toxicant-exposed seals, 163
  knockout mouse, 892
AIDS
  possible effects of environment, 369
  treatment of, 757
air pollution. *See also* ozone
  around coal-fired power plants, 1110
  in Australia, 903–904
  in Canada, 911–912
  epidemiology of health effects, 286–289
  in Europe, 445, 482–488, 838–842
  as factor in lung cancer, 64, 68, 1000
  indoor, 372
  in Japan, 436
  from livestock operations, 1098–1099
  measuring by computer tomography, 918–919
  modeling, 676–678
  in New Zealand, 907
  particulate, 72–76, 472–480
  physiologic responses to, 899–900
  platform of National Association of Physicians for the Environment, 132–133
  role of waste incinerators in, 714–724
  as a source of lead exposure, 1037
  and world population, 1093–1094
air quality, 37
ALAD. *See* δ-aminolevulinic acid dehydratase
alanine aminotransferase, 261
Alar, risk assessment of, 376–384
Alaska, health complaints linked to methyl-tertiary-butyl ether, 666
alcohol consumption, link to colon cancer, 542–543
aldehyde dehydrogenase, 731
algae blooms, in Australian rivers, 902, 904
allergy, mechanism for, 54–56
Alliance for a Responsible Swine Industry, 1099
allosteric regulation, 338
altered hepatic foci, in mice treated with unleaded gasoline, 698–699
alveolar macrophages
  effect of ozone on, 661
  response to carbon particles, 73–74
Alzheimer's disease, and electromagnetic fields, 18
American Association for the Advancement of Science, 230
American Cancer Society, 65
American Chemical Society, 25
American Hospital Association, 789
American Water Works Association, 322
americium, 922–923
4-aminobiphenyl-hemoglobin, in smokers, 156
7-amino-4-chloromethylcoumarin, 450
δ-aminolevulinic acid dehydratase, 655, 900
  and lead toxicity, 248–253
ammonia, 229
  as a by-product of livestock operations, 1098
  effect on aquatic organisms, 354
amosite crocidolite. *See* asbestos
amphetamine, carcinogenicity of, 179
amphibians, as indicators of water quality, 352–357
anaphylaxis, 54. *See also* hypersensitivity
M.D. Anderson Cancer Center, 450
angiogenesis
  inhibition by thalidomide, 132
  tumor, 424
animal models, surfactant research using, 361
p-anisidine, 944
Annual Report on Carcinogens, 681. *See also* Biennial Report on Carcinogens
Anopheles, 459, 1081
antagonism, 143
anti-androgens, 990–991
antibody responses. *See also* immune system
  suppression by toxicants, 162–163
anticholinesterase pesticides, 550
antioxidants, 557
Aplysia Resource Facility, 228
apopain, 1084–1085
apoptosis, 323, 1084–1085
Apple computer recycling, 791
aquatic organisms
  effect of ammonia on, 354
  mass mortalities among, 162
  as models, 226
  as sentinels, 230
  toxins produced by, 227
Arizona, concentrated cases of cancer and lupus, 542
arsenic
  carcinogenicity of, 1002
  contamination in Australia, 905
  risk assessment of, 13–16, 684–689
arthritis, 54
aryl hydrocarbon receptor. *See* Ah receptor
asbestos, 655, 656
  exposure of truck drivers to, 815
  induction of mitotic disturbances, 268
asthma
  in Australia, 904
  among child victims of Chernobyl, 939
  effect of nitrous acid on, 372–375
  and ozone, 133
ataxia telangiecstasia, gene for, 993
Atmospheric Studies in Complex Terrain, 676
atrazine, 321
Australia
  Agent Orange compensation, 222
  environmental health in, 902–906
azinphosmethyl, agricultural exposure to, 1128

B

bacteria, use in chemical manufacturing, 564
baculovirus biotechnology, 756–759
Barrett, J. Carl, 900
BCL2 gene, 20
Bedick, Thomas M., 794
benzene, 945
  in bottled water, 322

benzene, *continued*
interaction with toluene, 144
substituting glucose for, 564–566
benzethonium chloride, 945
benzo[*a*]pyrene
adducts, 156
effect on chloramphenicol acetyltransferase expression, 366
effect on fertility, 588–590
studies of metabolism, 229
o-benzyl-*p*-chlorophenol, 945
carcinogenicity of, 180
beryllium, immune effects, 237
beta-carotene, 656
beta-oxidation, 232
Biennial Report on Carcinogens, 25, 657, 806–807
bioassays. *See* carcinogenesis bioassays
biodiesel, 134–136
biodiversity, 543–544
bioflavonoids, 348, 349, 574
biomarkers, 466–470
of exposure to polycyclic aromatic hydrocarbons, 838–842
of iodine, 1032–1035
of smoking, 156
use in risk assessment, 335
BioMoos, 149
biopesticides, 756
birth length and weight, 592–596
effect of prental exposure to wood preservatives on, 1120–1125
2,2-bis(bromomethyl)-1,3-propanediol, 180
carcinogenicity of, 139
bismuth, radioactive
in radon decay pathway, 1042
use to treat cancer, 992–993
bisphenol-A, 610
Blackfoot disease, 15
Black River, Ohio, pollution of, 168
bladder cancer, among smokers, 156–157
Bladen, Daniel, 226
bleomycin, 72
Bliley, Thomas, 333
blood, as a monitoring tool, 1032–1034
blood lead. *See under* lead
blood pressure
effect of radiation exposure on, 940
population differences, 250
blood urea nitrogen, population differences, 250
blue baby syndrome, 1098
Blue Planet Prizes, 994
body weight
effect on lung cancer, 816
effect on toxicity tests, 901
Bolin, Bert, 994
bone marrow transplants, 450, 451
Border Environment Cooperation Commission, 650
Brassica, 1107
Brazil, World Bank aid, 446
BRCA1
gene, 504
protein modeling, 997
breast cancer, 655, 782, 1004
and dietary fat, 557
hereditary forms of, 993
immunotherapy, 223
in Japan, 439
proposed studies on timing of exposure, 230
risk factors, 138
role of estrogens in, 346–347
in the UK, 445
breastfeeding. *See* lactation; milk, human
Brent Spar, dismantling of, 786–787
brevetoxin, 227, 229
Brock, Norbert, 994
bromodeoxyuridine incorporation, 697
Brooks, Peter C., 424
1,3-butadiene, mortality of workers exposed to, 598–603
1,4-butanediol, 901
t-butyl alcohol, 667
carcinogenicity of, 180
butyl benzyl phthalate, 582, 901
reproductive effects in male rats, 1138
t-butylhydroquinone, 901
γ-butyrolactone, carcinogenicity of, 180

C

cadmium, 988
carcinogenicity of, 1002–1003
chelation therapy, 1050
dietary exposure to, 741–744
genetic control of tolerance, 1116–1118
as risk for prostate cancer, 805
California, Proposition 65, 672–674
calorie restriction, 559
Canada
dietary exposures, 740–746
environmental health, 908–913
pesticide use, 321
cancer. *See also specific types of cancer*
detection, 450–451
geography of, 64
link to arsenic ingestion, 684
link to water pollution, 542
ozone and, 663–664
pollution as a cause, 998
prevention by selenium, 790
radiation-induced, 920–930, 1018–1023
rates in Japan, 438
research and prevention strategies, 136–137
risk assessment, 334–336, 1001
role of diet, 556–559
role of environment, 998–1004
treatment, 424, 647–648, 757, 992
cancer cells, effect of human milk on, 1083–1084
Cannabis sativa. See hemp
capsaicin-sensitive neurons, effect of tobacco smoke on, 1029
carbamate insecticides, 550
carbon deposition, effect on lungs, 72–76
carbon dioxide, supercritical, 40
carbon dioxide emissions, 438
carbon monoxide, reduction of, 666
carcinogenesis
molecular mechanisms of, 504–506
multistep nature of, 158
research, 655–656
carcinogenesis bioassays, 680–683. *See also under* National Toxicology Program
use of transgenic mice in, 942–949
Carcinogenic Potency Database, 44
carcinogens
categorizing, 657–658
guidelines for risk assessment, 334
listing, 25, 681, 806–807
regulation of, 672–674
Carnegie Commission on Science, Technology, and Government, 146
Carson, Benjamin, 659
Castillo, Aurora, 647
cataracts, 904
α-catenin, 505
catfish, brown bullhead (*Ameiurus nebulosus*), liver neoplasms in, 168
cathepsin-D, secretion by MCF7 cells, 847
cattle industry, 1096
cell cycle control, 545
and cancer, 504
cell death. *See* apoptosis; necrosis
cell proliferation
caused by peroxisome proliferators, 232
effect of xenoestrogens on, 708–713
cell sorting, 450
cellular injury, mechanisms of, 985
Center for Renewable Energy and Sustainable Technology, 544
Centers for Disease Control and Prevention, 651
Central Intelligence Agency, alternative use of equipment, 428
ceramic fibers, 25
ceramic ware, as a source of lead exposure, 1038
cesium, 923–924
body burdens of Chernobyl victims, 936
Chafee, John H., 332
chain reaction, 367
Chapin, Robert, 794
chelation therapy, 734–739, 953, 988–989, 1048–1051
Chelyabinsk, Russia, 545

chemical industry, use of confidential business information provisions, 914–916
Chemical Industry Institute of Toxicology, 20
Chemical Manufacturers Association, 915
chemical manufacturing, 564
chemical mixtures
  assessing risks of, 142–145
  role in Persian Gulf syndrome, 792–793
chemical products, reformulation of, 673
chemicals
  prioritizing, 326
  selection for carcinogenesis bioassays, 680
chemical safety, 886–887
chemical weapons, disposal of, 426–428
Cheresh, David A., 424
Chernobyl explosion, 990
  exposure to fallout, 922
  health effects of, 936–941
Chesapeake Bay, 452
Chicago, mortality in, 490–497
children
  asthma among Russian, 939
  risk of ozone to, 661
Children's Television Workshop, 650
China
  health effects of air pollution, 286–289
  liver cancer in, 899
chloramine, 32
  carcinogenicity of, 181
chloramphenicol acetyltransferase activity, 367
chlordane, neurotoxicity of, 690–694
chlorine
  in drinking water, 322
  industrial use in Canada, 909
  as a water disinfectant, 30–31, 592
chlorine dioxide, 32
2-chloroethanol, 945
chlorofluorocarbons, 1003
  black market and regulations, 443, 1102–1104
chlorophyllin, 1090
chlorpyrifos, 551
  exposure of agricultural families to, 1129
Choi, Yul, 646
cholestyramine, 737
chromosome aberrations, in populations residing near mines, 469
chrysotile. *See* asbestos
cigarette smoking. *See* smoking
Ciguatera Network, 227
ciguatoxins, 227
ciprofibrate, 233
citrus oil, 330
Claiborne Enrichment Center, 223
clastogenesis, 270
Clean Air Act, 333, 661
Clean Water Act, 332
climate change, 1085–1086
  effect on malaria risk, 429–430, 458–464
clofibrate, 234
Closing the Circle Award, 659
cluster analysis, 749
coal-fired power plants, health effects of, 1110–1115
cobalt-60, 920–921
codeine, 901
Codex Alimentarius, 240
collaboratories, 148
colon cancer
  and diet, 557–558
  role of alcohol consumption, 542–543
colon polyps, 558
combinatorial masking, 245
Committee on Environment and Natural Resources, 36–37
Committee on Health, Safety Food Research and Development, 36, 37–38
Common Sense Litigation Act, 146
community development, 29
COMPACT (computer-optimized molecular parametric analysis of chemical toxicity), 178–184, 536–538
comparative molecular field analysis, 702–707
computer-assisted tomography, 918
computer modeling, 996
computer recycling, 790–791
confidential business information, 225, 914–916
confounding, in epidemiology, 497
Congress, environmental agenda, 332–333
Consumer Products Safety Commission, 329
Contract with America, 332–333
copper, chelation therapy, 1050
coumarin, carcinogenicity of, 183
coumestrol, effect on estrogen receptor function, 574–581
Council of Better Business Bureaus, 329
Council on Environmental Quality, 224, 788
creatinine, population differences, 250
p-cresidine, 944
Cryptosporidium, 892–893, 1097
  reduction by mussels, 18
crystallography, 996
cumulative probability distribution functions, 380
curium, 922–923, 928
cyclin-dependent kinases, 546
cytochromes, 178–184, 505
  CYP1A1, 158, 256, 368
  induction by dioxin, 822
  modeling, 997
cytoskeletal proteins, 343
Czech Republic, air pollution in, 483–488

D

damselfish neurofibromatosis, 226, 229–230
DDE
  as an anti-androgen, 990–991
  estrogenic properties of, 346–347
  in human milk, 894–895
DDT, 990
  association with breast cancer, 708
debrisoquine metabolism, 158
Declining Amphibian Populations Task Force, 355
de-epidermized dermis, 1014
DEET, 792
deforestation, impact of recycling on, 1008–1009
Delaney Clause, 1082
DeLay, Thomas, 333
Denmark, environmental policy, 445
Department of Energy, U.S., 788
  studies of air pollution, 676
desulfurization, 437, 438
diabetic retinopathy, treatment with thalidomide, 132
2,4-diaminophenol, 182
4,4-diamino-2,2′-stilbenedisulfonic acid, 181
2,3-dibromo-1-propanol, 183
p-dichlorobenzene, 552
dichlorvos, 552
diesel fuels
  and lung cancer, 812–818
  mutagenicity of, 432
diet, 10
  exposure to metals via, 684–685, 740–746
  restriction, 901
  role in cancer, 438, 542–543, 556–559, 790, 802–803
  strategic plan for nutrition, 38
diethylhexyl phthalate, carcinogenesis of, 233
N,N-diethyl-*m*-toluamide. *See* DEET
diethylnitrosamine inhalation, 697, 698–699
diethylstilbestrol, 708, 804
  reproductive effects in male rats, 1138
3,4-dihydrocoumarin, carcinogenicity of, 181
1,2-dihydro-2,2,4-trimethylquinoline, 901
meso-2,3-dimercaptosuccinic acid. *See* succimer
3,3′-dimethylbenzidine, carcinogenicity of, 183
dimethylhydrazine, unsymmetrical. *see* Alar
dioxins, 13
  animal *versus* human effects, 820–828
  effects on immune system of seals, 163
  estrogenic properties of, 348
dioxin (TCDD), 433, 782, 789
  in Agent Orange, 222
  association with breast cancer, 708
  effect on HIV-1 gene expression, 366–371
  effect on male reproductive organs, 805

dioxin, *continued*
effect on tracheal epithelial cells, 254
mouse model for toxicity testing, 892
reassessment of, 137
diphenylhydantoin, carcinogenicity of, 181
disability-adjusted life years, 461
dithiocarbamates, 568–573
DMSA. *See* succimer
DNA adducts, 1001
in lungs of smokers, 156
DNA damage, oxidative, 899
DNA fingerprinting, 246
DNA methylation, role of diet, 543
DNA repair, 469
genetic differences, 10
dose–response relationships, 335
drinking. *See* alcohol consumption
Drosophila melanogaster, cadmium tolerance in, 1116–1118
drug design, importance of modeling in, 996
Duke Center for Molecular Therapeutics, 223
DuPont Company, 565
dust, household
exposure to pesticides via, 1129
as a source of lead exposure, 1038
dust inhalation, 432
dyes, food, 182–183

E

Earth Day, 323, 327
Eastern Europe
air pollution, 482–488
cancer mortality, 64–70
eco-efficiency task force, 28
Eco-Logic International, waste disposal technology, 808–810
ecology, as a paradigm for cancer, 1000
ecology education, 452
ecosystem management, 355, 534
EDTA. 953, 1048. *See also* chelation therapy
education
environmental, 29, 327, 452
public health, 650–651, 657
EHPnet, 134
Center for Renewable and Sustainable Technology, 544
Earth Day-related sites, 323
EnviroSense, 991
government sites, 430
Guide to the Internet, 225
Institute for Molecular Virology, 649
Oncolink, 895
Radon Home Page, 1083
Smithsonian Institution's Ocean Planet, 787
electromagnetic fields, 1003–1004
and Alzheimer's disease, 18
epidemiological studies, 425–426
levels of exposure to, 832–836
Elion, Gertrude, 326
Emergency Planning and Community Right-to-Know Act, 915
endocrine disruption, 888
Engangered Species Act, 333
environmental health
federal coordination of, 36–39
international cooperation in research, 782
role of population in, 1094
environmental impact assessments, 223
in Europe, 443
environmental justice, 139–140, 796–800
in Canada, 912
executive order on, 223
environmentally safe products, 328–331
environmental policy, 26–29, 888–889
in Australia, 902–903
in Canada, 908–909
of World Bank, 447–448
Environmental Protection Agency, U.S., 223, 224, 1010–1012
enforcement of regulations, 21
Environmental Quality Awards, 788
Environment Canada, 908
EnviroSense, 991
enzymes, interaction of surfactants with, 359–360
eosinophilic granule-containing cells, 230
epidemiology
bias in studies of radon, 1042–1046
confounding in, 477–478
study design, 58
time-series analysis, 852–856
epidermal growth factor receptor, 348
epoxide hydrolase, 433
epoxy resins, 608
erythrocyte protoporphyrin, 250
E-screen assay, 844–849
estradiol, 609
binding site, 577
equivalents, 702
estrogen receptor
binding of polychlorinted hydroxybiphenyls to, 702–707
effect of coumestrol on, 574–581
levels in MCF7 cells, 848
estrogens. *See also* xenoestrogens
and diet, 558
equivalents, 349
health effects of, 346–351
role in carcinogenesis, 505
role in male reproductive development, 804
ethyl acrylate, 945
ethylenebisdithiocarbamates, 568–573
ethylene dibromide, 433
ethylene glycol, 181
ethylenethiourea, 568–573
ETS. *See* tobacco smoke, environmental
Eurasian milfoil, use to cleanup hazardous waste, 1108
Europe. *See also* Eastern Europe
environmental health in, 442–445
European Commission/Union, 442, 782
eutrophication, 354
explosives, cleanup using plants, 1108
extrapolation, 334, 386–389. *See also* risk assessment
of animal data to humans, 682, 820–828
eyes
treatment of macular degeneration, 132
use of lens cells in toxicity testing, 1015

F

Hans L. Falk Memorial Lecture, 138
family planning, 1094–1095
farmers. *See* agriculture
fat. *See also* adipose tissue
fat, role in cancer, 802–803, 815–816
Father Balemans, 994
fecal pathogens, from livestock waste, 1097
federal budget, 1010–1012
Federal Insecticide, Fungicide and Rodenticide Act, 888, 1082
Federal Trade Commission, 328
Fernald nuclear plant, Ohio, 992
fertility, 1094–1095
effect of benzo[*a*]pyrene and lead on, 588–590
FETAX bioassay, 353
fetotoxicity. *See also* miscarriage
of polychlorinated biphenyls, 498–502
of wood preservatives, 1120–1125
fiber, dietary, 558
fibrosis, 72, 74
fish, as source of mercury, 604–606
flow cytometry, 450, 846
fluid intake, 685–686
fluorescein isothiocyanate, 450
fluoride, action with guanosine triphosphate, 340
folate, 543
food
containers as a source of estrogens, 608–612
pesticides in, 1082–1083
poisoning from seafood, 227
safety, 38, 133–134
supply, 788
Food Safety and Inspections Service, 134
Food Systems 2002, 321
Forum on States and Tribal Toxic Action, 915
Fouts, James R., 901
fraction-1 protein, 19

Frauenfelder, Roger, 650
Fraumeni, Joseph F. Jr., 994
frogs, as indicators of water quality, 352–357
fuels. *See also* gasoline
  alternative, 324
  health effects of diesel, 432, 812–818
fungicides, 432

G

gasoline
  effect of unleaded on liver, 696–700
  reformulation program, 666
gastrointestinal tract
  biokinetics of radionuclides in, 922–924
  transit time, 455
GATT. *See* General Agreement on Tariffs and Trade
gemfibrozil, 234
GeneChip, 244
General Accounting Office, 224
  report on food safety, 133–134
General Agreement on Tariffs and Trade, 240–242
General Circulation Model, 429, 459
General Motors Cancer Research Foundation Award, 994
Genetics Institute, 245
genetic susceptibility, 10
genistein, 708
geography, effect on air pollution, 676–678
Germany
  air pollution, 483–488
  respiratory illness in, 852
glasswool, 25
glial fibrillary acidic protein, 229
Global Environmental Facility (World Bank), 448
Global 500 Role of Honour, 994
glucose, as a substitute for benzene, 564–566
glutathione *S*-transferase, 158, 256, 803
glycidol, 25
glycol ethers, nomenclature, 1080
Goldman Environmental Prize, 646–647
gourds, as fuel source, 324
government. *See also* Congress; *names of agencies*
  budget, 1010–1012
  coordination of health research, 36–39
government information, on the Internet, 430
G-proteins, 341
granular activated carbon, 32
Great Lakes, 1079
  contamination of fish in, 498, 604
  remediation of, 909–910
greenhouse effect
  model to assess, 458
The Green Machine Nature Conservation Club, 994
green marketing, 328–331
Greenpeace, actions against Brent Spar dismantling, 786–787
Green Seal, 329
Greenville, South Carolina water system, 33
groundwater contamination, from livestock operations, 1098
growth, effect of lead on, 952–956
GS. *See* nerve agents
guanosine triphosphate, hydrolysis, 340
Guidelines for Carcinogen Risk Assessment, 334
Gulf War veterans. *See* Persian Gulf syndrome

H

H. *See* nerve agents
habitat restoration, 452
hair, as a monitoring tool, 1032–1035
Hallett, Douglas, 809
Hammond, E. Cuyler, 654
Hanford nuclear site, Washington, 647
hantavirus, 649
Harlow, Edward E., 994
Harvard Six Cities Study, 663
Hazard Analysis and Critical Control Point, 38, 226, 228
Hazardexpert, 536
hazardous waste, 37
  in Australia, 905
  in Canada, 910–911
  cleanup using plants, 1106–1108
hazardous waste, *continued*
  technology for disposal, 808–810
  use in cancer treatment, 992
health care reform, effect on cancer strategies, 136
heavy metals research, 655
hematopoiesis, effect of solvents on, 238
hemoglobin
  adducts in smokers, 156
  lead binding sites, 251
hemp, use in paper manufacture, 893–894
hepatocellular carcinoma, 899
hepatocellular regeneration, 260
hepatocyte labeling index, 697, 698–699
hepatomegaly, 232
hereditary nonpolyposis colon cancer, 137
heredity, role in prostate cancer, 803–804
Hewlett-Packard, 244
  computer recycling, 791
hexachloroethane, 25
Hiroshima, radiation exposures, 1019–1020
HIV-1, 996
  effect of dioxin on, 366–371
Hodgkin's disease, 238, 648
hog industry, 1096
honeycomb denuders, 173
hormone receptors, 339
hormone replacement therapy, effect on bone lead, 1150–1153
hormones, effect on susceptibility, 10
hospital admissions data, as indicator of health effects of air pollution, 474, 662
hot particle hypothesis, 921
Hulka, Barbara S., 138
human exposure/rodent potency index, 377
Human Genome Project, 246
humic acid, 688
humidity, effect on mosquito life cycle, 460
hydrochlorofluorocarbons, 1104
hydropathic interaction, 703
hydroquinone, 565
4-hydroxyacetanilide, 182
hydroxyanisole, butylated, 582
hydroxyproline, 73, 74
1-hydroxypyrene, 839, 840–842
hypersensitivity. *See also* anaphylaxis
  caused by chemicals, 237
  suppression by toxicants, 162–163
hypertension. *See* blood pressure
hypertension, among victims of Chernobyl, 940

I

IBM computer recycling, 790–791
Idechong, Noah, 647
immune system
  effect of dioxins on, 163, 826
  effect of pesticides on, 551
  environmental effects on, 236–239
  IgE, 237
  role of aryl hydrocarbon receptor, 892
incineration, 808
India, World Bank aid to, 446
indole-3-carbinol, 348
inductively coupled plasma mass spectrometry, 79
industrialization, effect on cancer mortality, 64
infant mortality, 434
  in Europe, 443
inflammation, role of multiple factors, 985
Information Collection Rule, 30
inhalation
  computer models of, 20
  exposure techniques, 172–177
insecticidal soaps, 332
insects, interaction of surfactants with, 360
in situ hybridization, 549
Institute for Molecular Virology, 649
Integrated Model to Assess the Greenhouse Effect, 458
integrated pest management, 321
integrin, 424
interleukin-1B converting enzyme, 1085
internal dose, 218
International Agency for Research on Cancer, assessment of silica, 152

International Bottled Water Association, 322
International Development Agency, 446, 447
International Joint Commission on the Great Lakes, 910
International Monetary Fund, 446, 447
International Programme on Chemical Safety, 886
Internet, 642. *See also* EHPnet
  research on, 148
Inuits
  diets of, 740–746, 790
  health problems of, 912
i*n vitro models*, 388
iodine
  biological monitoring, 1032–1035
  radioactive, 990
iprodione, 1082
isobutyl nitrite, carcinogenicity of, 139
isoflavonoids, 574
isogenic strains, 46
Italy, exposure to dioxins in, 444
Ixsys Inc., 424

J

Japan
  environmental health in, 436–440
  radiation in Hiroshima/Nagasaki, 1019–1020
  Yokkaichi City, 994
Johns Hopkins University Environmental Health Sciences Center, 898–900
Joint Food and Agriculture Organization, 743
J.R. Simplot Company, 134–136

K

KAI1 gene, 652, 804
Kato, Kanshi, 994
kinetochore staining, 268
Klamath Basin National Wildlife Refuges, 354
Korach, Kenneth S., 658
K-*ras* mutations, in smokers, 157
Kunkel, Thomas, 794
K-X-ray fluorescence, 78–83

L

lactation, effect of pesticides on, 894–895
lagoons, livestock waste, 1097–1098
landfills, impact of recycling on, 1007
Landrigan, Philip J., 655
LANDSAT, 428
lanthanides, 923
lead, 988
  blood levels in Mexican children, 1036–1040
  bone, 249
    effect of hormone replacement therapy on, 1150–1153
    measuring, 78–83
  chelation therapy, 734–739, 1048–1049
  dietary exposure, 741–744
  in drinking water, 322
  education programs, 650–651
  effect on fertility, 588–590
  effect on growth of children, 952–956
  exposure in Australia, 903–904
  interaction with δ-aminolevulinic acid dehydratase, 248–253
  neurotoxicity, 900
League of Conservation Voters, 332
legislation, environmental, 240, 332–333
lens cells, use in toxicity testing, 1015
leukemia, 1000
  association with electromagnetic fields, 425
  and drinking water, 538
  due to methyl-tertiary-butyl-ether, 986
Leydig cell tumors, 986
Li, Frederick P., 994
liana, 544
lindane, effects of prenatal exposure to, 1120–1125
lipophilic monomers, polymerization of, 40–42
liver
  cyclase, 339
  effect of unleaded gasoline, 696–700
  hepatocellular carcinoma, 899
  hepatocellular regeneration, 260
liver, *continued*
  hepatomegaly, 232
  neoplasms in fish, 168–170
  role of aryl hydrocarbon receptor in development, 892
liver cancer, in China, 899
livestock waste, 1096–1100
lock-and-key theory, 338
loss of heterozygosity, 505
lung cancer
  and diesel engine exhaust, 812–818
  in Japan, 438
  in Poland, 64–70
  radiation-induced, 927–928
  and radon exposure, 1144–1149
  role of air pollution, 1000
  role of telomerase, 991
  silica-induced, 152–153
  tobacco-induced, 156–160
lungs. *See also* asthma; respiratory tract
  effect of ozone on, 661–662
  effect of radionuclides on, 926–928
  function, 472–475, 719
  role of particulates in disease, 72–76
lupus erythematosus, 542
lymphoma, due to methyl-tertiary-butyl ether, 986
lymphopoiesis, 236
lymphosarcoma, 600

M

M55 rocket, 427–428
macular degeneration, treatment with thalidomide, 132
malaria
  control of, 644–645
  effect of climate change on, 429–430, 458–464
male reproduction, effect of estrogens on, 346–347. *See also* specific organs
Malthusians, 1092
mammary gland, effect of xenoestrogens on, 708–713
maneb, 568–573
manganese sulfate, carcinogenicity of, 180
Maoris, 906–907
marine toxins, 227
Mason, Ronald P., 25
mass tort litigation, 146
maximum tolerated dose, 45, 266, 680
MCF7 cell lines, 505, 608
  comparison of, 844–849
Measure of Air Pollution from Space, 320
media, coverage of science, 560–562
medical waste incinerators, guidelines for, 788–789
menopause, bone lead during, 1150
mercuric chloride, carcinogenicity of, 181
mercury, 988. *See also* methylmercury
  chelation therapy, 1049–1050
  detoxification by selenium, 790
  dietary exposure to, 604–606, 741–744
meta-analysis, 61
metallothionein, 1050
  genes in *Drosophila*, 1116–1118
metals
  chelation therapy, 1048–1051
  cleanup using plants, 1106
  dietary exposure to, 740–746
  induction of autoimmunity, 237
  research, 655
  role in cancer, 1002
methanol, model of inhalation, 726–733
methionine, 543, 687
methyl bromide, carcinogenicity of, 181
methylcofenapate, 234
N-methyl-D-aspartate, role in learning and memory, 900
methylene chloride, 330
methylmercury, 436, 912
methyl methacrylate, 40
N-methyloacrylamide, 944
methyl phenidate, carcinogenicity of, 181
methyl-tertiary-butyl ether, 420–422
  carcinogenicity of, 985–986
  health effects of, 666–670
Mexico City, childhood lead exposure, 1036–1040

michellamine B, 544
micronuclei, induction by asbestos, 268–271
microorganisms, interaction of surfactants with, 360
microsatellite instability, 137
Middle East Agricultural Health Study, 22
migraine headache, 54
milk, human. *See also* lactation
  contamination of, 913
  effect on cancer cells, 1083–1084
Minamata disease, 436–437
miners, studies of, 895–896
mining, as a source of metal pollution, 466, 740
minorities, 659. *See also* environmental justice
mirex, 945
miscarriage, 592–596. *See also* fetotoxicity
mismatch repair, 137
Mission to Planet Earth, 320
mitogen-activated protein, 504, 546
mitogens, stimulation tests, 165
mitosis, effect of asbestos on, 268–271
mixture decomposition, 749
mobile receptor concept, 341
modeling
  air pollution, 676–678
  in vitro, 388
  of malaria, 458–464
  molecular, 996–997
  mortality from air pollution, 492–493
  physiologically based pharmacokinetic, 387, 669, 726
molecular pathology, 548–549
Monbiot, George, 994
morbidity, 854–855
mortality
  rates, 1092
  relation of air pollution to, 490–497
  study of butadiene workers, 598–603
Mount Sinai Environmental Health Sciences Center, 654
MTBE. *See* methyl-tertiary-butyl ether
multimeric lactalbumin, 1084
multiple chemical sensitivity, 792–793
  mechanism for, 54–56
multiple myeloma, 542
Must, Emma, 647
mutagenicity, Ames, 180
mycotoxins, estrogenic properties of, 348

N

NAFTA. *See* North American Free Trade Agreement
Nagasaki, radiation exposures, 1019–1020
naphthalene, carcinogenicity of, 179
nasal mucociliary clearance, effect of environmental tobacco smoke on, 1026–1030
National Aeronautics and Space Administration, 320
National Air Pollution Surveillance Network, 911
National Ambient Air Quality Standards, 660
National Association of Environmental Professionals, 787
National Association of Physicians for the Environment, 132
National Campaign for Pesticide Policy Reform, 1082
National Institute of Environmental Health Sciences
  directory of centers, 25
  environmental programs, 138
  funding for, 984
  Laboratory of Experimental Pathology, 548–549
  recycling program, 658
National Institute of Occupational Safety and Health, 1010, 1011
National Institute of Standards and Technology, 244
National Institutes of Health awards, 794
National Radiological Protection Board, 1020
National Residue Program, 134
National Safety Council, 650
National Science and Technology Council, 36–39
National Toxicology Program, 218
  bioassays, 178–184, 220, 536, 680–683, 942
    use of multiple strains in, 44–52
  technical reports, 139
National Weather Service, 677
Native Americans. *See also* environmental justice
  environmental programs, 140
  National Tribal Environmental Council, 327
  respiratory health, 324
Natural Resources Defense Council, 788
  dioxin reassessment, 137
natural resources management, 28
Nature Conservation Society of Japan, 440
Navarro, Ricard, 647
Nebert, Daniel W., 230
necrosis, 260, 262
negative selection, 451
neomycin, 735, 737
neptunium, 922–923
nerve agents, 427
The Netherlands, environmental problems in, 443
neurofibromatosis, 229–230
neurogenic switching, 54–56
neuropathy target esterase, 433
neuropsychological tests, to measure effects of chlordane exposure, 692
New York State Angler Cohort Study, 498–502
New Zealand, environmental health in, 906–907
Niagara River, 910
nickel compounds, toxicity of, 139
niobium, 923–924
p-nitroaniline, 183
p-nitrobenzoic acid, 182
nitrogen oxides, 438
  around coal-fired power plants, 1113
p-nitrophenol, 180
nitrosamines, among smokers, 156, 157
nitrous acid, effect on lung function, 372–375
NNK, 156, 158, 662
no-adverse-effect level, 144
Nobel lecture, 338–345
non-Hodgkin's lymphoma, 20, 539, 540, 600, 1000, 1022
non-point source pollution, 1099
nontoxic, definition of, 329
North American Free Trade Agreement, 650
North Carolina
  drinking water and pregancy outcome in, 592–596
  livestock regulations in, 1099
  smoking legislation, 651
NTP. *See* National Toxicology Program
nuclear fuel compounds, biokinetics of, 920–930
Nuclear Regulatory Commission, environmental impact statement, 223
nuclear waste, use to treat cancer, 647–648
nutrition. *See* diet

O

obesity, in research animals, 559
occupation, role in cancer, 805, 812. *See also specific occupations*
occupational medicine, 656
Occupational Safety and Health Administration, 1010
4-octylphenol, reproductive effects in male rats, 1138
odor, from livestock operations, 1099
oil rigs, dismantling, 786–787
okadaic acid, 227
olefin cracking, 603
omega-3 fatty acids, 790
oncogenes, 548
Oncolink, 895
oogenesis, effect of benzo[a]pyrene and lead, 588–590
opioid peptides, modeling, 997
opportunistic pathogens, of frogs, 352
orchards, exposure to pesticides, 1130
Oregon State University Environmental Health Sciences Center, 1088–1090
organic, definition of, 330
Organisation for Economic Cooperation and Development, 442
organochlorine pesticides, 353, 655
organophosphate-induced delayed neuropathy, 427, 433, 792
organophosphorus pesticides, 551
  exposure of agricultural families to, 1129
outbred stocks, 45
ovariectomy, 575
Oxley, Michael, 333
Oxygenated Fuels Association, 666
ozonation, 31–32
ozone
  depletion of stratospheric, 904
  health effects of atmospheric, 133, 660–664, 911

P

Pacific Northwest Laboratories, 148, 648
paint strippers, 330
paper industry
  in Canada, 909
  recycling by, 1008
  use of hemp, 893–894
parathion, exposure of agricultural families to, 1129
particulates, 172, 721–722
  effect on mortality, 490–497
  total suspended, 172, 286, 852
Patarroyo vaccine, 430
PBBs. *See* polybrominated biphenyls
PCBs. *See* polychlorinated biphenyls
peer review, 130
penicillamine, as a chelator, 1049
pentachloroanisole, 181
pentachlorphenol, effects of prenatal exposure to, 1120–1125
pentoxyresorufin-*O*-dealkylase, 697
perchloroethylene, 539, 540
permethrin, 792
peroxisome proliferator-activated receptor, 233
peroxisome proliferators, role in carcinogenesis, 232–235
Persian Gulf syndrome, 792–793, 986
pesticides, 330, 353, 655
  in baby food, 1082–1083
  effects on wildlife, 888–889
  estrogenicity of, 844
  health risk of household, 550–554
  inert ingredients, 553–554
  occupational exposure to, 432, 1126–1134
  organic, 756
  as risk for cancer, 805, 999, 1000
  use trends, 241, 321
petroleum hydrocarbons, 553
pharmacokinetics, 142–144. *See also* physiologically based pharmacokinetic modeling
phenol, 945
phocine distemper virus, 162
phosmet, exposure of agricultural families to, 1129
phospholipids, interaction of surfactants with, 359
phthalate plasticizers, estrogenicity of, 582–587
physiologically based pharmacokinetic modeling, 387
  of inhaled methanol, 726
  of methyl-tertiary-butyl ether, 669
phytoestrogens, 576
phytoremediation, 1106–1108
piperonyl butoxide, 553
planetary boundary layer, 676
plants
  as drug sources, 544
  interaction of surfactants with, 360
  use to remediate soil and water, 1106–1108
Plasmodium, 459
plastics manufacturing, 40–42
plastics recycling, 1008
plutonium, 920, 922–923, 927–928
  in radon decay pathway, 1042–1043
Poisson regression, 492
Poland
  exposure to polycyclic aromatic hydrocarbons, 838–842
  lung cancer mortality, 64–70
  World Bank aid to, 446
pollen, as a factor in air pollution, 492
polybrominated biphenyls, half-life in humans, 272–274
polybrominated dibenzo-*p*-dioxins/dibenzofurans, 13
polychlorinated biphenyls, 702–707, 782
  among native peoples, 912
  disposal of, 809
  effects on immune system, 163, 239
  estrogenicity of, 12, 346–347, 702–707
  risk assessment of, 821
  as risk factor for fetal death, 498–502
polychlorinated dibenzo-*p*-dioxins/dibenzofurans, effects of prenatal exposure to, 1120–1125. *See also* dioxins
polycyclic aromatic hydrocarbons, 348
  effect on chloramphenicol acetyltransferase expression, 367–370
  exposure to in Poland, 838–842
  in fish, 168–170
polymerase chain reaction, 366, 549, 655
polymer synthesis, 244
polymer technology, 40–42
polymorphisms, genetic, 10
  in bladder cancer patients, 158
polymorphonuclear leukocytes, response to carbon particles, 73–74
poplar trees, use to cleanup hazardous waste, 1108
population, effect on environment, 1078, 1092–1095
population and consumption task force, 28
Porter, John Edward, 333
Portugal, water pollution in, 444
positive selection, 451
potatoes, by-products as fuel, 134–136
poultry industry, 1096
poverty, programs for reducing, 446
power lines, as source of electromagnetic field exposure, 832–836
preexisting diseases, 10
pregnancy loss, early, 656. *See also* fetotoxicity
President's Council on Sustainable Development, 26
preterm delivery, 592–596
private property protection, 332
probability density function, 378
Profile of Mood States, 1098
progesterone receptor levels, in MCF7 cells, 848
proliferating cell nuclear antigen, 260, 261, 708
promethazine, carcinogenicity of, 180
promethium, 924
propiconazole, 889
Proposition 65, 672–674
prostate cancer, 802–805, 1003
  gene for, 652
prostratin, 544
proteins, interaction of surfactants with, 358–359
Prudential Foundation, 650
pS2, secretion by MCF7 cells, 847
p53 tumor-suppressor gene, 504, 546
  in smokers, 157
pulmonary fibrosis, due to radiation exposure, 926–927
pulp mill effluent, in Canada, 909
pyrethrins, 553
pyridostigmine bromide, 792

Q

quantitative structure-activity relationships, 702–707
quinones, 434

R

radar, use to gather environmental information, 320
radiation, ionizing
  biological effects of, 920–930, 936–941
  role in cancer, 1002, 1018–1023
radiation contamination, in Russia, 544–545
radioactive waste, in Australia, 905
radium
  in hazardous waste, 993
radon, 25, 220, 1003
  effect of residential mobility on exposure estimates, 1144–1149
  glass-based measurement, 1042–1046
  and lung cancer, 58–63
  miner studies, 895–896
  monitoring, 466
Radon Home Page, 1083
railroad workers, lung cancer among, 814
rainfall, effect on mosquito life cycle, 460
rare earth elements. *See* lanthanides
rat tracheal epithelial cells, metabolizing enzymes in, 254
recycling, 1006–1009
  in Canada, 911
  computers, 790–791
  at NIEHS, 138
red leg, 352
red tides, 226
refrigeration, acoustic, 1104
regression, nonparametric, 748–755
relative proliferative potency, 845
remote sensing computed tomography, 918–919
reproductive toxicity, 432
  of benzo[a]pyrene and lead, 588–590
  of polychlorinated biphenyls, 498–502
reserpine, 944

resorcinol, carcinogenicity of, 180
respiratory tract. *See also* lungs
  biokinetics of radionuclides in, 924
  effect of air pollution on, 475–476, 718–720
respiratory tract
  effect of livestock operations, 1098
  environmentally influenced diseases, 852–856
  methanol deposition in, 730
reticulosarcoma, 600
retinoblastoma gene, 504
retinoic acid, 254
reverse transcriptase, 996
rhinitis, 54
rhodium-106, 924
Rio Earth Summit, 27
risk assessment, 332–334, 376–384, 852–856
  of arsenic, 684–689
  of chemical mixtures, 142–145
  comparative, 376–384
  of dioxins, 820–828
  extrapolation for, 386–389
  overestimation, 143
  of peroxisome proliferators, 233–235
  quantitative, 152
  role of individual differences, 10
Rodbell, Martin, 338
Rosenstiel School of Marine and Atmospheric Sciences, 226
rubber reserve process, 602
Russia. *See also* Chernobyl
  radioactive contamination of rivers, 544–545
ruthenium, 923–924

S

Safe Drinking Water Act, 32, 332–333, 673
salicylazosulfapyridine, 901
  carcinogenicity of, 182
saliva, as a monitoring tool, 1032–1035
Salmonella mutagenesis assay, 943
Salt Lake County, Utah, mortality in, 490–497
Samoan tree, 544
sample size, 59–60
sarin, effects of, 427
Saro-Wiwa, Ken, 646
satellites, use to gather environmental information, 428
saxitoxin, 227
Schizosaccharomyces pombe, as a model for DNA damage, 504
Science Advisory Board, dioxin reassessment, 137
science communication, 326, 560–562
science funding, 644, 984
scientific evidence, 146
scopolamine hydrobromide trihydrate, 901
seafood safety, 228.
seals, harbor *(Phoca vitulina)*
  effects of toxicants on immune system, 162–167
second messenger theory, 338
Secretary's Distinguished Service Award, 659
selenium, potential in cancer prevention, 790
Selikoff, Irving J., 654
Sellafield nuclear complex, 1021
semi-parametric model, 492, 496
senescence, 992
sentinels, environmental, 888–889
sequencing by hybridization, 245
Sertoli cells, effect of xenoestrogens on, 1140–1141
Seventh Annual Report on Carcinogens, 25
sewage, xenoestrogens in, 582–587
sexual activity, role in prostate cancer, 805
sexual development, disruption of, 991
Shuster, Bud, 332
sick building syndrome, 54
Siddigi, Safina Z., 994
Sierra Club, 240
signal transduction, 338–345
silica, risks and policy, 152–155
skin
  effect of ionizing radiation on, 929–930
  effect of surfactants on, 361
  in vitro models of, 1014–1016
skin cancer, 1003
  among fisherman, 898
  in Australia, 904
  radiation-induced, 929–930
Smith, Bob, 333
Smithsonian Institution's Ocean Planet, 787
smoking, 1002. *See also* environmental tobacco smoke; tobacco
  and cancer, 65, 156–160
  as a confounder in radon measurements, 1043–1044
  in Japan, 438
  legislation, 651–652
  and radon exposure, 58–63
  synergism with occupational exposure, 814, 815
sodium azide, carcinogenicity of, 182
soil, exposure to pesticides via, 1129
soil ingestion, estimating, 276–285, 454–457
solvents, 40
sorbitol dehydrogenase, 261, 698
South America, malaria risk in, 460
Southeast Asia, malaria risk in, 460
Southern Chemist Award, 25
space travel, water disinfection for, 1032–1035
Spain, air pollution in, 444
spectrometry, 432
  inductively coupled plasma, 79
  matrix-assisted desorption-ionization time-of-flight, 1089
spectroradiometers, 792
sperm production, effect of xenoestrogens on, 1139
St. Lawrence River, cleanup of, 910
statistical methods
  meta-analysis, 61
  regression, 748–755
stomach cancer, 600
strain differences, 44
Strong, Maurice, 994
strontium-90, 648
structure-activity relationships, 178, 335
  use to examine binding affinities of PCBs, 702–707
structure alert, 181
substance P, 54
succimer, 988, 1048–1049. *See also* chelation therapy
  metabolism of, 734–739
sulfur dioxide, 64, 438, 486, 852, 911
  around coal-fired power plants, 1113
  relation to hospital visits, 286
  role in mortality, 476
supercritical fluid technology, 41
Superfund, 333
supravital-UV microscopy, 269
surfactants, nonionic, 358–364
Surveillance, Epidemiology, and End Results Program, 998
sustainability, 26, 534
Sweden, environmental policy, 445
switching regression, 748
synergism, 143, 792–793
Syrian hamster embryo fibroblasts, effect of asbestos on, 268
SyStemix, 451

T

tailings, hazards of, 466
Taiwan
  arsenic data, 14, 15–16
  effects of arsenic in, 684
tamoxifen, 47
TCDD. *See* dioxin
technology, role in environment, 1094
telomerase, 991–992
temperature, effect on mosquito life cycle, 460
testes, effect of xenoestrogens on size, 1139
testicular cancer, 802, 804
testosterone, 803, 804
  effect of dioxins on blood levels of, 826
tetranitromethane, 25
tetrathiomolybdate, 1050
tetrodotoxin, 227
thalidomide, to treat macular degeneration, 132
thallium-204, 929
theophylline, carcinogenicity of, 181
thermal desorption, 809

thioacetamide, hepatotoxicity of, 260
4,4′-thiobis(6-*t*-butyl *m*-cresol), carcinogenicity of, 181
Thlaspi, 1107
threshold values, 854
thyroid, effects of radiation on, 938, 940
thyroid cancer
  in Chernobyl children, 990
  from dithiocarbamates, 569–571
time-series analysis, 852–856
tissue repair, 260
titanium, as an indicator of soil ingestion, 454
titanocene dichloride, carcinogenicity of, 183
toadfishes, as models, 228
tobacco. *See also* smoking
  carcinogenicity of, 67, 156–160
  scientific uses of, 19
tobacco smoke, environmental
  effect on mucociliary clearance, 1026–1030
  role in cancer, 1000–1002
toluene, interaction with benzene, 144
tomography. *See* computer-assisted tomography
total suspended particulates, 172, 852
  relation to hospital visits, 286
toxic equivalency factor, 782, 821
toxic equivalents, 162
toxicity testing
  alternatives to animals, 1014–1016
  effect of body weight on, 901
toxicology, role of the chemist, 218
Toxics Release Inventory, 1084
Toxic Substances Control Act, 224, 914–916
toxic tort litgation, 146
toxicology, mechanism-based, 334–336, 387
trace elements, use to estimate soil ingestion, 276–285, 454–457
trade, international
  impact on environment, 240–242
transduction, 339
transgenic mice, 549
  aryl hydrocarbon receptor-deficient, 892
  use to identify carcinogens, 942–949
transportation policies, 28
triamterene, carcinogenicity of, 181
tribultyltin, 889
trichloroethylene, 144, 539, 540
1,2,3-trichloropropane, carcinogenicity of, 183
α-trichosanthin, 19
tricresyl phosphate, carcinogenicity of, 180
triethanolamine, carcinogenicity of, 139
trifluoroacetate, 1104
trihalomethane, in drinking water, 592–596
tris(2-chloroethyl)phosphate, 182
truck drivers, lung cancer among, 814
tumor angiogenesis, 424
tumors, combining, 986
tumor-suppressor genes, 504
  role in testicular cancer, 804

U

ultraviolet radiation, 1003
  measuring, 791–792
United Kingdom, environmental problems in, 445
United Nations
  Conference on Environment and Development, 886
  Environment Programme, 447
University of California-Davis Center for Environmental Health Sciences, 432
University of Idaho, alternative fuels research, 134
University of Miami's Marine and Freshwater Biomedical Sciences Center, 226
uranium, 920, 922–923
  genotoxic effects in populations near mines, 466–470
urban renewal, 452–453
uric acid, population differences, 250
urine, as a monitoring tool, 1032–1035
uterus, effect of coumestrol on growth of, 574–581
utility workers, exposure to electromagnetic fields, 425

V

vasectomy, 805
vector control, 462
verbal recall, effect of chlordane exposure on, 693
very-large-scale immobilized polymer synthesis technology, 244
vinclozolin, 990
4-vinyl-1-cyclohexene diepoxide, 943
virtual impactors, 173
virtual laboratories, 148
vitamins, role in prostate cancer, 803
volatile organic compounds, 330

W

war, overpopulation as a cause of, 1094
waste incinerators, analysis of respiratory effects, 714–724
waste spills. *See* livestock waste
waste treatment, cost of, 42
wastewater, 452
water
  bottled, 322
  disinfection, 30–34
  drinking
    contamination with *Cryptosporidium*, 892–893
    lead in, 322
    and leukemia, 538
    Safe Drinking Water Act, 32, 332–333, 673
    as a source of arsenic, 684–686
    trihalomethane in, 592–596
  supplies, 1093
water pollution, 452–453
  in the Europe, 444
  in Japan, 438
  link to lupus erythematosus, 542
  from livestock operations, 1097–1098
  relationship to tumors in fish, 168
  using mussels to monitor, 18
water quality, 37, 322, 352–357
  in Australia, 904–905
weather
  association of mortality with, 490, 491–492
  relation to hospital visits, 286
Wertheimer-Leeper coding, 836
wetlands, construction of, 452
wildlife, effects of pollution on health, 888–889
Women Scientists Seminar Series, 326
women's environmental health, 656
wood preservatives, effects of prenatal exposure to, 1120–1125
working-level month, 896
World Bank, 446–448
World Wide Web, 642. *See also* EHPnet; Internet

X

xenoestrogens, 133, 782, 1000
  versus anti-androgens, 990–991
  effect on mammary gland, 708–713
  from food cans, 608–612
  reproductive effects in male rats, 1136–1143
  in sewage, 582–587
X-ray fluorescence, 655, 1037
X-rays, risks of, 993, 1018–1021

Y

Yama, 1084–1085
Yokkaichi City, Japan, 994
Young, Don, 333
yttrium, radioactive, 648, 924, 928
Yu-Cheng poisoning, 826

Z

zearalenone, estrogenic properties of, 348
zebrafish, 1089, 1090
zebra mussels, as animal models, 18
zinc, 1050
  as risk for prostate cancer, 805
zineb, 568–573
ziram, 568–573
zirconium, 923–924
  as an indicator of soil ingestion, 454

Environmental Health perspectives Supplements

Author–Title and Subject Indices Vol 103, Suppl 1–9 (1995)

Author–Title Index, Vol 103, Suppl 1–9 (1995)

A

Abbinante-Nissen J. *See* Leikauf GD
Abramowicz DA: Aerobic and anaerobic PCB biodegradation in the environment, 5:97–99
Abriola LM, Chen Y-M: Mathematical modeling of BTX: biotransformation and transport in the subsurface, 5:85–88
Adlercreutz H: Phytoestrogens: epidemiology and a possible role in cancer protection, 7:103–112
Ahier BA, Tracy BL: Radionuclides in the Great Lakes basin, 9:89–101
Ahlbom A. *See* Feychting M
Albert RE. *See* Leikauf GD
Alexander M: Commentary: a small circle of knowledge, a large circle of ignorance, 5:121–123
Alexander VH. *See* Vazquez FG
Alimohomed S, Keeler B: The youth role in creating a healthy future for the earth: an examination of the link between collective action for the environment and the emotional health of children, 6:63–66
Ames BN. *See* Gold LS
Anderson A. *See* Jellum E
Anton-Culver H: Cancer prevention strategies: use of cancer prevention research registries, 8:237–239. *See also* Goldman LR
Armienta-Hernández MA, Rodríguez-Castillo R: Environmental exposure to chromium compounds in the Valley of León, México, 1:47–51
Arnold RG. *See* Betterton EA
Aro A. *See* Hu H
Ashley DL. *See* Needham LL; Pirkle JL
Aust SD: Mechanisms of degradation by white rot fungi, 5:59–61
Axelson O: Cancer risks from exposure to radon in homes, 2:37–43

B

Bahr JM. *See* Hess RA
Bailar JC III: Monitoring human tissues for toxic substances: a follow-up to the National Academy of Sciences report on Monitoring Human Tissue for Toxic Substances, 3:81–84
Bates DV: The effects of air pollution on children, 6:49–53; Observations on asthma, 6:243–247
Batres L. *See* Osbaldo R
Baxter CS. *See* Leikauf GD
Bearer CF: How are children different from adults? 6:7–12
Becker JL. *See* Rier SE
Beland P. *See* DeGuise S
Bergeron JM. *See* Crews D
Berman E. *See* Simmons JE
Bern HA. *See* Iguchi T
Bernier J, Brousseau P, Krzystyniak K, Tryphonas H, Fournier M: Immunotoxicity of heavy metals in relation to Great Lakes, 9:23–34
Bernstein DI. *See* Leikauf GD
Bernstein J. *See* Leikauf GD
Best DA. *See* Bowerman WW
Betka M. *See* Callard GV
Betterton E. *See* Cao Y
Betterton EA, Arnold RG, Kuhler RJ, Santo GA: Reductive dehalogenation of bromoform in aqueous solution, 5:89–91
Bierman-Lytle P: Creating a healthy home: environmental building materials–what are they? Where are they? 6:67–70
Birnbaum LS: Workshop on perinatal exposure to dioxin-like compounds. V. Immunologic effects, 2:157–160; Developmental effects of dioxins, 7:89–94
Blair A, Zahm SH: Agricultural exposures and cancer, 8:205–208
Blake E. *See* Goldman LR
Blake ER: Understanding outrage: how scientists can help bridge the risk perception gap, 6:123–125
Blazka ME. *See* Shaikh ZA
Boettger-Tong HL. *See* Stancel GM
Boushey HA, Fahy JV: Basic mechanisms of asthma, 6:229–233
Bowerman WW, Giesy JP, Best DA, Kramer FJ: A review of factors affecting productivity of bald eagles in the Great Lakes region: implications for recovery, 4:51–59
Bowman RE. *See* Rier SE
Bradlow HL, Davis DL, Lin G, Sepkovic D, Tiwari R: Effects of pesticides on the ratio of 16/2-hydroxyestrone: a biologic marker of breast cancer risk, 7:147–150
Braus-Stromeyer SA. *See* Leisinger T
Brendel K. *See* Burton CA
Brennan T. *See* Hu H
Brickey C: Commentary: relevance of risk assessment to exposed communities, 1:89–91
Brinton LA. *See* Hulka BS
Brousseau P. *See* Bernier J
Brunekreef B, Dockery DW, Krzyzanowski M: Epidemiologic studies on short-term effects of low levels of major ambient air pollution components, 2:3–13
Bryan EF. *See* Sexton K
Bryant CJ. *See* Carey C
Buckley JD. *See* Robison LL
Buncher CR. *See* Leikauf GD
Bunick D. *See* Hess RA
Bunin G. *See* Robison LL
Burton CA, Hattlelid K, Divine K, Carter DE, Fernando Q, Brendel K, Gandolfi AJ: Glutathione effects on toxicity and uptake of mercuric chloride and sodium arsenite in rabbit renal cortical slices, 1:81–84
Byrdy FA, Caruso JA: Trace metal speciation by HPLC with plasma source mass spectrometry detection, 1:21–23
Byrne AM. *See* Olsen RH
Byrne SV. *See* Kosson DS

C

Callahan MA. *See* Sexton K
Callard GV, Kruger A, Betka M: The goldfish as a model for studying neuroestrogen synthesis, localization, and action in the brain and visual system, 7:51–57
Campion RJ. *See* Eschenbacher WL
Canning BJ. *See* Jakab GJ
Cao Y, Conklin M, Betterton E: Competitive complexation of trace metals with dissolved humic acid, 1:29–32
Carey C, Bryant CJ: Possible interrelations among environmental toxicants, amphibian development, and decline of amphibian populations, 4:13–17
Carlsen E, Giwercman A, Keiding N, Skakkebak NE: Declining semen quality and increasing incidence of testicular cancer: is there a common cause? 7:137–139
Carlson JE, Sokoloff K: Preventing child exposures to environmental hazards: research and policy issues, 6:3–5
Carpenter DO: Communicating with the public on issues of science nad public health, 6:127–130
Carrizales L. *See* Osbaldo R
Carter DE: Oxidation-reduction reactions of metal ions, 1:17–19. *See also* Burton CA
Caruso JA. *See* Byrdy FA
Cerniglia CE. *See* Rafii F
Chan-Yeung M: Occupational asthma, 6:249–252
Chapman PJ, Shelton M, Grifoll M, Selifonov S: Fossil fuel biodegradation studies, 5:79–83
Chen J. *See* Durant JL
Chen J-H, Czajka DR, Lion LW, Shuler ML, Ghiorse WC: Trace metal mobilization in soil by bacterial polymers, 1:53–58
Chen Q. *See* Keith RL
Chen Y-M. *See* Abriola LM
Cheng KM. *See* Henshel DS
Chiappetta C. *See* Stancel GM
Chow K. *See* Gold LS
Chu I. *See* Moody RP
Chung KL. *See* Soto AM
Clarkson T: Health effects of metals: a role for evolution? 1:9–12
Cody RP, Lioy PJ. *See* Weisel CP
Cohen AJ, Pope CA III: Lung cancer and air pollution, 8:219–224
Colborn T: Pesticides-how research has succeeded and failed to translate science in policy: endocrinological effects on wildlife, 6:81–86; Environmental estrogens: health implications for humans and wildlife, 7:135–136
Conklin M. *See* Cao Y
Crain DA. *See* Guillette LJ Jr
Crews D, Bergeron JM, McLachlan JA: The role of estrogen in turtle sex determination and the effect of PCBs, 7:73–77
Czajka DR. *See* Chen J-H

D

Darby SC, Inskip PD: Ionizing radiation: future etiologic research and preventive strategies, 8:245–249; Radford EP, Whitley E: Radon exposure and cancers other than lung cancer in Swedish iron miners, 2:45–47. *See also* Tomásek L
Davis DL, Muir C: Estimating avoidable causes of cancer, 8:301–306. *See also* Bradlow HL; Zahm SH
de Thé G: Viruses and human cancers: challenges for preventive strategies, 8:269–273
Deddens J. *See* Hornung RW
DeGuise S, Martineau D, Beland P, Fournier M: Possible mechanisms of action of environmental contaminants on St. Lawrence beluga whales (*Delphinapterus leucas*), 4:73–77
Delgado JL. *See* Metzger R
Denslow ND. *See* Heppell SA
Devesa SS. *See* Zahm SH
Díaz-Barriga F. *See* Gonsebatt ME; Osbaldo R
Divine K. *See* Burton CA
Dockery DW. *See* Brunekreef B
Dodson SI, Hanazato T: Commentary on effects of anthropogenic and natural organic chemicals on development, swimming behavior, and reproduction of *Daphnia*, a key member of aquatic ecosystems, 4:7–11
Dorgan J. *See* Schatzkin A
Driscoll KE. *See* Leikauf GD
Durant JL, Chen J, Hemond HF, Thilly WG: Elevated incidence of childhood leukemia in Woburn, Massachusetts: NIEHS Superfund Basic Research Program searches for causes, 6:93–98

E

Endo T. *See* Shaikh ZA
Eschenbacher WL, Holian A, Campion RJ: Air toxics and asthma: impacts and end points, 6:209–211
Eskenazi B, Kimmel G: Workshop on perinatal exposure to dioxin-like compounds. II. Reproductive effects, 2:143–145
Etzel RA: Indoor air pollution and childhood asthma: effective environmental interventions, 6:55–58
Ezzati-Rice TM, Murphy RS: Issues associated with the design of a national probability sample for human exposure assessment, 3:55–59

F

Facemire CF, Gross TS, Guillette LJ Jr: Reproductive impairment in the Florida panther: nature or nurture? 4:79–86
Fahy JV. *See* Boushey HA
Feeley MM: Biomarkers for Great Lakes priority contaminants: halogenated aromatic hydrocarbons, 9:7–16; Workshop on perinatal exposure to dioxin-like compounds. III. Endocrine effects, 2:147–150
Feldman D, Krishman A: Estrogens in unexpected places: possible implications for researchers and consumers, 7:129–133
Feldman J: Risk assessment, a community perspective, 6:153–158
Fenner-Crisp PA: Pesticides—the NAS report: how can the recommendations be implemented? 6:159–162
Fernandez MF. *See* Soto AM
Fernando Q: Metal speciation in environmental and biological systems, 1:13–16. *See also* Burton CA: Keith RL
Feychting M, Ahlbom A: Childhood leukemia and residential exposure to weak extremely low frequency magnetic fields, 2:59–62
Figgs LW. *See* Walker B
Fine LJ: The importance of information dissemination in the prevention of occupational cancer, 8:217–218
Firestone MK. *See* Hunt JR
Fletcher-Vincent SA. *See* Malveaux FJ
Folmar LC. *See* Heppell SA
Ford T, Ryan D: Toxic metals in aquatic ecosystems: a microbiological perspective, 1:25–28
Foster WG: The reproductive toxicology of Great Lakes contaminants, 9:63–69
Fournier M. *See* Bernier J; DeGuise S; Krzystyniak K
Fox GA: Tinkering with the tinkerer: pollution *versus* evolution, 4:93–100
Fraumeni JF Jr. *See* Zahm SH
Frausto CA. *See* Vazquez FG
Fries MR. *See* Tiedje JM
Fry DM: Reproductive effects in birds exposed to pesticides and industrial chemicals, 7:165–171
Fukazawa Y. *See* Iguchi T
Fukumori F. *See* Hausinger RP
Furukawa K, Kimura N: Biochemistry and genetics of PCB metabolism, 5:21–23

G

Gallion KJ. *See* Ramirez AG
Gametchu B. *See* Watson CS
Gandolfi AJ. *See* Burton CA; Keith RL
Garfinkel GB. *See* Gold LS
Georgopoulos PG: Regulatory ozone modeling, status, directions, and research needs, 2:107–132
Ghiorse WC, Herrick JB, Sandoli RL, Madsen EL: Natural selection of PAH-degrading bacterial guilds at coal-tar disposal sites, 5:107–111. *See also* Chen J-H
Giesy JP. *See* Bowerman WW
Gilbert SG, Grant-Webster KS: Neurobehavioral effects of developmental methylmercury exposure, 6:135–142
Gilman A. *See* Lindstrom G
Gilman AP. *See* Tramblay NW
Gilmour MI. *See* Jakab GJ
Giwercman A. *See* Carlsen E
Gold LS, Manley NB, Slone TH, Garfinkel GB, Ames BN, Rohrbach L, Stern BR, Chow K: Sixth plot of the Carcinogenic Potency Database: results of animal bioassays published in the general literature 1989 to 1990 and by the National Toxicology Program 1990 to 1993, 8:3–122
Goldman LR; Anton-Culver H, Kharrazi M, Blake E: Banking of human tissue for biomonitoring and exposure assessment: utility for environmental epidemiology and surveillance, 3:31–34; Children—unique and vulnerable. Environmental risks facing children and recommendations for response, 6:13–18
Golub MS, Jacobson SW: Workshop on perinatal exposure to dioxin-like compounds. IV. Neurobehavioral effects, 2:151–155
Gómez H. *See* Gonsebatt ME
Gonsebatt ME, Salazar AM, Montero R, Díaz-Barriga F, Yáñez L, Gómez H, Ostrosky-Wegman P: Genotoxic monitoring of workers at a hazardous waste disposal site in Mexico, 1:111–113
Gorski J, Hou Q: Embryonic estrogen receptors: do they have a physiological function? 7:69–72
Gossett JM. *See* Zinder SH
Grant-Webster KS. *See* Gilbert SG
Greene GL. *See* Landel CC
Griffith J. *See* Lee LW; Zenick H
Grifoll M. *See* Chapman PJ
Gross DA. *See* Guillette LJ Jr
Gross TS. *See* Facemire CF; Guillette LJ Jr
Guengerich FP: Cytochrome P450 proteins and potential utilization in biodegradation, 5:25–28
Guillette LJ Jr; Crain DA, Rooney AA, Pickford DB: Organization *versus* activation: the role of endocrine-distrupting contaminants (EDCs) during embryonic development in wildlife, 7:157–164; Gross TS, Gross DA, Rooney AA, Percival HF: Gonadal steroidogenesis *in vitro* from juvenile alligators obtained from contaminated or control lakes, 4:31–36. *See also* Hose JE; Facemire CF
Guo YL, Lambert GH, Hsu C-C: Growth abnormalities in the population exposed *in utero* and early postnatally to polychlorinated biphenyls and dibenzofurans, 6:117–122

H

Hajek RA. *See* Jones LA
Hammel KE: Mechanisms for polycyclic aromatic hydrocarbon degradation by ligninolytic fungi, 5:41–43
Hanazato T. *See* Dodson SI
Harris JA, Shaw GM: Neural tube defects—why are rates high among populations of Mexican descent? 6:163–164
Hattlelid K. *See* Burton CA
Hausinger RP, Fukumori F: Characterization of the first enzyme in 2,4-dichlorophenoxyacetic acid metabolism, 5:37–39

Hayes RB. *See* Rothman N
Haynes A: Cancer among special populations: women, ethnic minorities, and the poor, 8:319–320
Heinrich J. *See* Wichmann H-E
Hemond HF: Movement and distribution of arsenic in the Aberjona watershed, 1:35–40. *See also* Durant JL
Henny CJ, Rudis DD, Roffe TJ, Robinson-Wilson E: Contaminants and sea ducks in Alaska and the circumpolar region, 4:41–49
Henshel DS, Martin JW, Norstrom R, Whitehead P, Steeves JD, Cheng KM: Morphometric abnormalities in brains of great blue heron hatchlings exposed to PCDDs, 4:61–66
Heppell SA, Denslow ND, Folmar LC, Sullivan CV: Universal assay of vitellogenin as a biomarker for environmental estrogens, 7:9–15
Herbst LH, Klein PA: Green turtle fibropapillomatosis: challenges to assessing the role of environmental cofactors, 4:27–30
Herrell R. *See* Metzger R
Herrick JB. *See* Ghiorse WC
Hess RA, Bunick D, Bahr JM: Sperm, a source of estrogen, 7:59–62
Hill RH Jr. *See* Needham LL
Hoel DG: Ionizing radiation and cancer prevention, 8:241–243
Hoffman DJ. *See* White DH
Holden PA. *See* Hunt JR
Holian A. *See* Eschenbacher WL
Holmberg B: Magnetic fields and cancer: animal and cellular evidence—an overview, 2:63–67
Holmes H: Building healthy communities for children: the transportation link, 6:71–72
Hooper K, Clark GC: Workshop on perinatal exposure to dioxin-like compounds. VI. Role of biomarkers, 2:161–167. *See also* Lindstrom G
Hornung RW, Deddens J, Roscoe R: Modifiers of exposure–response estimates for lung cancer among miners exposed to radon progeny, 2:49–53
Hose JE, Guillette LJ Jr: Defining toe role of pollutants in the disruption of reproduction in wildlife, 4:87–91
Hou Q. *See* Gorski J
Hsu C-C. *See* Guo YL
Hu H; Aro A, Rotnitzky A: Bone lead measured by X-ray fluorescence: epidemiologic methods, 1:105–110; Kotha S, Brennan T: The role of nutrition in mitigating environmental insults: policy and ethical issues, 6:185–190
Hulka BS, Brinton LA: Hormones and breast and endometrial cancers: preventive strategies and future research, 8:185–189. *See also* Lee LW
Hunt JR, Holden PA, Firestone MK: Coupling transport and biodegradation of VOCs in surface and subsurface soils, 5:75–78
Hyder SM. *See* Stancel GM

I

Ignar-Trowbridge DM, Pimentel M, Teng CT, Korach KS, McLachlan JA: Cross talk between peptide growth factor and estrogen receptor signaling systems, 7:35–38
Iguchi T, Fukazawa Y, Bern HA: Effects of sex hormones on oncogene expression in the vagina and on development of sexual dimorphism of the pelvis and anococcygeus muscle in the mouse, 7:79–82
Inskip PD. *See* Darby SC

J

Jacobson SW. *See* Golub MS
Jakab GJ, Spannhake EW, Canning BJ, Kleeberger SR, Gilmour MI: The effects of ozone on immune function, 2:77–89
Janssen DB, van der Ploeg JR, Pries F: Genetic adaptation of bacteria to halogenated aliphatic compounds, 5:29–32
Jedrychowski W: Review of recent studies from central and eastern Europe associating respiratory health effects with high levels of exposure to traditional air pollutants, 2:15–21
Jellum E, Anderson A, Lund-Larsen P, Theodorsen L, Orjasaeter H: Experiences of the JANUS Serum Bank in Norway, 3:85–88
Jobling S. *See* Sumpter JP
Johnson C. *See* Scow KM
Jokela J. *See* Salkinoja-Salonen M
Jones LA, Hajek RA: Effects of estrogenic chemicals on development, 7:63–67

K

Ka J-O. *See* Tiedje JM
Katsouyanni K: Health effects of air pollution in southern Europe: are there interacting factors? 2:23–27
Katzenellenbogen JA: The structural pervasiveness of estrogenic activity, 7:99–101
Keeler B. *See* Alimohomed S
Keiding N. *See* Carlsen E
Keith RL, McGuinness SJ, Gandolfi AJ, Lowe TP, Chen Q, Fernando Q: Interaction of metals during their uptake and accumulation in rabbit renal cortical slices, 1:77–80
Kerkvliet NI: Immunological effects of chlorinated dibenzo-*p*-dioxins, 9:47–53
Kharrazi M. *See* Goldman LR
Kimmel G. *See* Eskenazi B
Kimura N. *See* Furukawa K
Kirkland JL. *See* Stancel GM
Kleeberger SR. *See* Jakab GJ
Klein PA. *See* Herbst LH
Kline S. *See* Leikauf GD
Koenig JQ: Effect of ozone on respiratory responses in subjects with asthma, 2:103–105
Koh HK: Preventive strategies and research for ultraviolet-associated cancer, 8:255–257
Kohlmeier L, Kohlmeier M: Adipose tissue as a medium for epidemiologic exposure assessment, 3:99–106; Simonsen N, Mottus K: Dietary modifiers of carcinogenesis, 8:177–184
Korach KS, McLachlan JA: Techniques for detection of estrogenicity, 7:5–8. *See also* Ignar-Trobridge DM; McLachlan JA; Migliaccio S
Koren HS: Associations between criteria air pollutants and asthma, 6:235–242
Kosson DS, Byrne SV: Interactions of aniline with soil and groundwater at an industrial spill site, 5:71–73
Koster BJ. *See* Wise SA
Kotha S. *See* Hu H
Kramer FJ. *See* Bowerman WW
Krishman A. *See* Feldman D
Krzystyniak K, Tryphonas H, Fournier M: Approaches to the evaluation of chemical-induced immunotoxicity, 9:17–22. *See also* Bernier J
Krzyzanowski M. *See* Brunekreef B
Kuehl DW. *See* Lahvis GP
Kuhler RJ. *See* Betterton EA
Kukor JJ. *See* Olsen RH
Kupper LL. *See* Rappaport SM
Kurger A. *See* Callard GV
Kushner PJ. *See* Landel CC

L

Lahvis GP, Wells RS, Kuehl DW, Stewart JL, Rhinehart HL, Via CS: Decreased lymphocyte responses in free-ranging bottlenose dolphins (*Tursiops truncatas*) are associated with increased concentrations of PCBs and DDT in peripheral blood, 4:67–72
Laine M. *See* Salkinoja-Salonen M
Lambert GH. *See* Guo YL
Landel CC, Kushner PJ, Greene GL: Estrogen receptor accessory proteins: effects on receptor-DNA interactions, 7:23–28
Landgrave J: A pilot plant for removing chromium from residual water of tanneries, 1:63–65
Lee LW, Griffith J, Zenick H, Hulka BS: Human tissue monitoring and specimen banking: opportunities for exposure assessment, risk assessment, and epidemiologic research, 3:3–8
Leikauf GD; Kline S, Albert RE, Baxter CS, Bernstein DI, Bernstein J, Buncher CR: Evaluation of a possible association of urban air toxics and asthma, 6:253–271; Simpson LG, Santrock J, Zhao Q, Abbinante-Nissen J, Zhou S, Driscoll KE: Airway epithelial cell responses to ozone injury, 2:91–95
Leisinger T, Braus-Stromeyer SA: Bacterial growth with chlorinated methanes, 5:33–36
Lewis R. *See* Lubin B
Li FP: Identification and management of inherited cancer susceptibility, 8:297–300
Lin G. *See* Bradlow HL

Lindstrom G, Hooper K, Petreas M, Stephens R, Gilman A: Workshop on perinatal exposure to dioxin-like compounds. I. Summary, 2:135–142
Lion LW. *See* Chen J-H
Lioy PJ: Measurement methods for human exposure analysis, 3:35–43. *See also* Weisel CP
Lowe TP. *See* Keith RL
Lubin B, Lewis R: Biomarkers and pediatric environmental health, 6:99–104
Lund-Larsen P. *See* Jellum E

M

Ma GM. *See* Scow KM
MacDonald JA. *See* Rittmann BE
Madsen EL. *See* Ghiorse WC
Mahaffey KR: Nutrition and lead: strategies for public health, 6:191–196
Mäkelä S, Santti R, Salo L, McLachlan JA: Phytoestrogens are partial estrogen agonists in the adult male mouse, 7:123–127
Malkin D: Age-specific oncogenesis: the genetics of cancer susceptibility, 6:37–39
Malveaux FJ, Fletcher-Vincent SA: Environmental risk factors of childhood asthma in urban centers, 6:59–62
Manley NB. *See* Gold LS
Martin DC. *See* Rier SE
Martin JW. *See* Henshel DS
Martineau D. *See* DeGuise S
Mas-Pla J. *See* Yeh T-CJ
Massol-Deyá A. *See* Tiedje JM
McAlister A. *See* Ramirez AG
McCarthy JF. *See* Yeh T-CJ
McGuinness SJ. *See* Keith RL
McLachlan JA, Korach KS: Symposium on estrogens in the environment, III, 7:3–4. *See also* Crews D; Ignar–Trowbridge DM; Korach KS; Mäkelä S; Migliaccio S
Mejía J. *See* Osbaldo R
Metzger DA: Nontraditional sites of estrogen action, 7:39
Metzger R, Delgado JL, Herrell R: Environmental health and Hispanic children, 6:25–32
Metzler M, Pfeiffer E: Effects of estrogens on microtubule polymerization *in vitro*: correlation with estrogenicity, 7:21–22
Migliaccio S, Newbold RR, McLachlan JA, Korach KS: Alterations in estrogen levels during development affects the skeleton: use of an animal model, 7:95–97
Mikesell MD. *See* Olsen RH
Miller AB: Primary prevention of cancer: needs and opportunities for research, 8:313–317
Miller R: Special susceptibility of the child to certain radiation-induced cancers, 6:41–44
Miller RM: Biosurfactant-facilitated remediation of metal-contaminated soils, 1:59–62
Montero R. *See* Gonsebatt ME
Moody RP, Chu I: Dermal exposure to environmental contaminants in the Great Lakes, 9:103–114
Morris RD: Drinking water and cancer, 8:225–231
Mott L: The disproportionate impact of environmental health threats on children of color, 6:33–35
Mottus K. *See* Kohlmeier L
Mueller N: Overview: viral agents and cancer, 8:259–261
Muir C. *See* Davis DL
Murphy RS. *See* Ezzati-Rice TM
Murthy L. *See* Stancel GM
Muscat JE. *See* Wynder EL

N

Needham LL, Hill RH Jr, Ashley DL, Pirkle JL, Sampson EJ: The priority toxicant reference range study: interim report, 3:89–94. *See also* Pirkle JL
Needleman HL: Behavioral toxicology, 6:77–79
Newbold R: Cellular and molecular effects of developmental exposure to diethylstilbestrol: implications for other environmental estrogens, 7:83–87. *See also* Migliaccio S
Norstrom R. *See* Henshel DS

O

Olea N. *See* Soto AM
Olsen RH, Mikesell MD, Kukor JJ, Byrne AM: Physiological attributes of microbial BTEX degradation in oxygen-limited environments, 5:49–51
Orjasaeter H. *See* Jellum E
Orleans CT: Preventing tobacco-caused cancer: a call to action, 8:149–152
Ortíz D. *See* Osbaldo R
Osbaldo R, Carrizales L, Yáñez L, Mejía J, Batres L, Ortíz D, Díaz-Barriga F: Arsenic increased lipid peroxidation in rat tissues by a mechanism independent of glutathione levels, 1:85–88
Ostrosky-Wegman P. *See* Gonsebatt ME

P

Palmer BD, Palmer SK: Vitellogenin induction by xenobiotic estrogens in the red-eared turtle and African frog, 4:19–25
Palmer SK. *See* Palmer BD
Pappas TC. *See* Watson CS
Parsonnet J: Bacterial infection as a cause of cancer, 8:263–268
Patterson DG. *See* Pirkle JL
Pellizzari ED. *See* Wallace LA
Pendleton DR: Air toxics: sources and monitoring in Texas, 6:223–228
Percival HF. *See* Guillette LJ Jr
Perera FP: Molecular epidemiology and prevention of cancer, 8:233–236. *See also* Whyatt RM
Petreas M. *See* Lindstrom G
Pfeiffer E. *See* Metzler M
Pickford DB. *See* Guillette LJ Jr
Pimentel M. *See* Ignar-Trowbridge DM
Pirkle JL, Sampson EJ, Needham LL, Patterson DG, Ashley DL: Using biological monitoring to assess human exposure to priority toxicants, 3:45–48. *See also* Needham LL
Popo CA III. *See* Cohen AJ
Potischman N. *See* Schatzkin A
Pries F. *See* Janssen DB

R

Radford EP. *See* Darby SC
Rafii F, Cerniglia CE: Reduction of azo dyes and nitroaromatic compounds by bacterial enzymes from the human intestinal tract, 5:17–19
Rall DP: Can laboratory animal carcinogenicity studies predict cancer in exposed children? 6:173–175
Raloff J: Uncertain risks and the risks of certainty, 6:131–133
Ramirez AG, McAlister A, Gallion KJ, Villarreal R: Targeting Hispanic populations: future research and prevention strategies, 8:287–290
Rappaport SM, Symanski E, Yager JW, Kupper LL: The relationship between environmental monitoring and biological markers for exposure assessment, 3:49–53
Reigart JR: How should federal policy reflect recent research in the area of intrauterine exposure to environmental hazards? 6:143–145
Rhinehart HL. *See* Lahvis GP
Rice DC: Neurotoxicity of lead, methylmercury, and PCBs in relation to the Great Lakes, 9:71–87
Rier SE, Martin DC, Bowman RE, Becker JL: Immunoresponsiveness in endometriosis: implications of estrogenic toxicants, 7:151–156
Rittmann BE, Smets BF, MacDonald JA, Stahl DA: Plasmid transfer for enhancing degradation capabilities, 5:113–115
Robinson-Wilson E. *See* Henny DJ
Robison LL, Buckley JD, Bunin G: Assessment of environmental and genetic factors in the etiology of childhood cancers: the Childrens Cancer Group epidemiology program, 6:111–116
Rodier PM: Developing brain as a target of toxicity, 6:73–76
Rodrguez-Castillo R. *See* Armienta-Hernndez MA
Roffe TJ. *See* Henny DJ
Rogan WJ: Environmental poisoning of children–lessons from the past, 6:19–23
Rohrbach L. *See* Gold LS
Rooney AA. *See* Guillette LJ Jr
Roscoe R. *See* Hornung RW
Rothman KJ: Research and prevention priorities for alcohol carcinogenesis, 8:161–163

Rothman N, Hayes RB: Using biomarkers of genetic susceptibility to enhance the study of cancer etiology, 8:291–295
Rotnitzky A. *See* Hu H
Rudis DD. *See* Henny DJ
Ryan D. *See* Ford T

S

Salazar AM. *See* Gonsebatt ME
Salkinoja-Salonen M, Uotila J, Jokela J, Laine M, Saski E: Organic halogens in the environment: studies of environmental biodegradability and human exposure, 5:63–69
Salo L. *See* Mäkelä S
Samet JM: Controlling the avoidable causes of cancer: needs and opportunities for etiologic research, 8:307–311
Sampson EJ. *See* Needham LL; Pirkle JL
Sanchez RA: Water quality problems in Nogales, Sonora, 1:93–97
Sandoli RL. *See* Ghiorse WC
Santo GA. *See* Betterton EA
Santrock J. *See* Leikauf GD
Santti R. *See* Mäkelä S
Saski E. *See* Salkinoja-Salonen M
Savitz DA: Overview of occupational exposure to electric and magnetic fields and cancer: advancements in exposure assessment, 2:69–74
Schatzkin A, Dorgan J, Swanson C, Potischman N: Diet and cancer: future etiologic research, 8:171–175
Schulte PA, Sweeney MH: Ethical considerations, confidentiality issues, rights of human subjects, and uses of monitoring data in research and regulation, 3:69–74
Scow KM,S, Johnson C, Ma GM: Biodegradation of sorbed chemicals in soil, 5:93–95
Selifonov S. *See* Chapman PJ
Semprini L: *In situ* bioremediation of chlorinated solvents, 5:101–105
Sepkovic D. *See* Bradlow HL
Serrano FO. *See* Soto AM
Serrano OR: Rate, transport, and interacitons of heavy metals, 1:7–8
Sever LE: Looking for causes of neural tube defects: where does the environment fit in? 6:165–171
Sexton K; Callahan MA, Bryan EF: Estimating exposure and dose to characterize health risks: the role of human tissue monitoring in exposure assessment, 3:13–29; Science and policy in regulatory decision making: getting the facts right about hazardous air pollutants, 6:213–222
Shaikh ZA, Blazka ME, Endo T: Metal transport in cells: cadmium uptake by rat hepatocytes and renal cortical epithelial cells, 1:73–75
Shann JR: The role of plants and plant/microbial systems in the reduction of exposure, 5:13–15
Sharma VK. *See* Vazquez FG
Shaw GM. *See* Harris JA
Shelton M. *See* Chapman PJ
Shopland DR: Tobacco use and its contribution to early cancer mortality with a special emphasis on cigarette smoking, 8:131–142
Shuler ML. *See* Chen J-H
Siemiatycki J: Future etiologic research in occupational cancer, 8:209–215
Simmons JE, Yang RSH, Berman E: Evaluation of the nephrotoxicity of complex mixtures containing organics and metals: advantages and disadvantages of the use of real-world complex mixtures, 1:67–71
Simonsen N. *See* Kohlmeier L
Simpson LG. *See* Leikauf GD
Skakkebak NE. *See* Carlsen E
Slone TH. *See* Gold LS
Smets BF. *See* Rittmann BE
Sokoloff K. *See* Carlson JE
Sonawane BR: Chemical contaminants in human milk: an overview, 6:197–205
Sonnenschein C. *See* Soto AM
Soto AM, Sonnenschein C, Chung KL, Fernandez MF, Olea N, Serrano FO: The E-SCREEN assay as a tool to identify estrogens: an update on estrogenic environmental pollutants, 7:113–122
Spannhake EW. *See* Jakab GJ
Stahl DA. *See* Rittmann BE
Stancel GM, Boettger-Tong HL, Chiappetta C, Hyder SM, Kirkland JL, Murthy L, Loose-Mitchell DS: Toxicity of endogenous and environmental estrogens: what is the role of elemental interactions? 7:29–33
Statement from the work session on environmentally induced alterations in development: a focus on wildlife, 4:3–5
Steeves JD. *See* Henshel DS
Stephens R. *See* Lindstrom G
Stern BR. *See* Gold LS
Stewart JL. *See* Lahvis GP
Stolley PD, Zahm SH: Nonhormonal drugs and cancer, 8:191–196
Suk WA: The NIEHS Superfund Basic Research Program: overview and areas of future research directions, 1:3–5; *See also* Young L
Sullivan CV. *See* Heppell SA
Sumpter JP, Jobling S: Vitellogenesis as a biomarker for estrogenic contamination of the aquatic environment, 7:173–178
Swanson C. *See* Schatzkin A
Sweeny MH. *See* Schulte PA
Symanski E. *See* Rappaport SM

T

Teng C: Mouse lactoferrin gene: a marker for estrogen and EGF, 7:17–20. *See also* Ignar-Trowbridge DM
Theodorsen L. *See* Jellum E
Thiem SM. *See* Tiedje JM
Thilly WG. *See* Durant JL
Thomann RV: Modeling organic chemical fate in aquatic systems: significance of bioaccumulation and relevant time-space scales, 5:53–57
Thomas DB: Alcohol as a cause of cancer, 8:153–160
Thomas PT: Pesticide-induced immunotoxicity: are Great Lakes residents at risk? 9:55–61
Thomas RD: Age-specific carcinogenesis: environmental exposure and susceptibility, 6:45–48
Tiedje JM, Thiem SM, Massol-Deya A, Ka J-O, Fries MR: Tracking microbial populations effective in reducing exposure, 5:117–120
Tilson HA: The concern for developmental neurotoxicology: is it justified and what is being done about it? 6:147–151
Tiwari R. *See* Bradlow HL
Tomásek L, Darby SC: Recent results form the study of west Bohemian uranium miners exposed to radon and its progeny, 2:55–57
Toniolo PG. *See* Wolff MS
Tracy BL. *See* Ahier BA
Tremblay NW, Gilman AP: Human health, the Great Lakes, and environmental pollution: a 1994 perspective, 9:3–5
Tryphonas H: Immunotoxicity of PCBs (Aroclors) in relation to Great Lakes, 9:35–46. *See also* Bernier J; Krzystyniak K

U

Uotila J. *See* Salkinoja-Salonen M

V

van der Ploeg JR. *See* Janssen DB
Vazquez FG, Sharma VK, Alexander VH, Frausto CA: Metals in some lagoons of Mexico, 1:33–34
Via CS. *See* Lahvis GP
Villarreal R. *See* Ramirez AG

W

Wackett LP: Recruitment of co-metabolic enzymes for environmental detoxification of organohalides, 5:45–48
Wagener DK: Ethical considerations in the design and execution of the national and Hispanic Health and Nutrition Examination Survey (HANES), 3:75–80
Waldman JM: Approaches for exposure characterization and data needs for hazardous waste-site assessment, 1:99–104
Walker B, Figgs LW, Zahm SH: Differences in cancer incidence, mortality, and survival between African Americans and whites, 8:275–281
Wallace LA, Pellizzari ED: Recent advances in measuring exhaled breath and estimating esposure and body burden for volatile organic compounds (VOCs), 3:95–98
Wang YZ, Zhou Y, Zylstra GJ: Molecular analysis of isophthalate and terephthalate degradation by comamonas testosteroni YZW-D, 5:9–12

Ward E: Overview of preventable industrial causes of occupational cancer, 8:197–203
Watson CS, Pappas TC, Gametchu B: The other estrogen receptor in the plasma membrane: implications for the actions of environmental estrogens, 7:41–50
Weinstock MA: Overview of ultraviolet radiation and cancer: what is the link? How are we doing? 8:251–254
Weisel CP, Cody RP, Lioy PJ: Relationship between summertime ambient ozone levels and emergency department visits for asthma in central New Jersey, 2:97–102
Wells RS. *See* Lahvis GP
White DH, Hoffman DJ: Effects of polychlorinated dibenzo-*p*-dioxins and dibenzofurans on nesting wood ducks (*Aix sponsa*), 4:37–39
Whitehead P. *See* Henshel DS
Whitley E. *See* Darby SC
Whyatt RM, Perera FP: Application of biologic markers to studies of environmental risks in children and the developing fetus, 6:105–110
Wichmann H-E, Heinrich J: Health effects of high level exposure to traditional pollutants in East Germany—review and ongoing research, 2:29–35
Willett WC: Diet, nutrition, and avoidable cancer, 8:165–170
Williams TM. *See* Yeh T-CJ
Wise SA, Koster BJ: Considerations in the design of an environmental specimen bank: experiences of the national biomonitoring specimen bank program, 3:61–67
Wolff MS: Pesticides—how research has succeeded and failed in informing policy: DDT and the link with breast cancer, 6:87–91; Toniolo PG: Environmental organochlorine exposure as a potential etiologic factor in breast cancer, 7:141–145
Wynder EL, Muscat JE: The changing epidemiology of smoking and lung cancer histology, 8:143–148

Y

Yager JW. *See* Rappaport SM
Yez L. *See* Gonsebatt ME; Osbaldo R
Yang RSH. *See* Simmons JE
Yeh T-CJ, Mas-Pla J, McCarthy JF, Williams TM: Modeling of natural organic matter transport processes in groundwater, 1:41–46
Young L, Suk W: Introduction: biodegradation: its role in reducing toxicity and exposure to environmental contaminants, 5:3

Z

Zahm SH; Devesa SS: Childhood cancer: overview of incidence trends and environmental carcinogens, 6:177–184; Fraumeni JF Jr: Racial, ethnic, and gender variations in cancer risk: considerations for future epidemiologic research, 8:283–285; Fraumeni JF Jr, Davis DL: The avoidable causes of cancer, 8:129. *See also* Blair A; Stolley PD; Walker B
Zenick H, Griffith J: The role of specimen banking in risk assessment, 3:9–12. *See also* Lee LW
Zhao Q. *See* Leikauf GD
Zhou S. *See* Leikauf GD
Zhou Y. *See* Wang YZ
Zinder SH, Gossett JM: Reductive dechlorination of tetrachloroethene by a high rate anaerobic microbial consortium, 5:5–7
Zylstra GJ. *See* Wang YZ

Subject Index, Vol 103, Suppl 1–9 (1995)

A

Aberjona River, 6:93–98
absorption of contaminants in children, 6:8–9
adipose tissue in epidemiologic exposure assessment, 3:99–104
Aeromonas hydrophila, in amphibians, 4:14
agricultural exposure and cancer, 8:205–207
Ah receptor, binding to dioxin-like compounds, 2:135–136
air pollution. *See also* contaminants; indoor air pollution; *names of individual compounds*
  criteria pollutants and mortality, 6:261–262
  effects on asthma, 6:55–57, 6:59–61, 6:209–210, 6:235–239, 6:245, 6:249–251, 6:253–267
  effects on lung cancer, 8:219–223
  effects on respiratory tracts of children, 6:49–52
  epidemiolgic studies of, 2:3–11
  in Europe, 2:15–21, 2:23–25
  exposure guidelines, 6:265–266
  in Germany, 2:29–34
  monitoring in Texas, 6:223–227
  from motor vehicle emissions, 6:71–72
  regulatory decision making, 6:213–221
  risks to Hispanics, 6:27–28
air quality standards, 2:3–4, 2:97
  Clean Air Act, 2:107
  National Ambient Air Quality Standard (NAAQS), 2:107
Alcaligenes eturophus enzymes, biodegradation of dichlorophenoxyacetic acid, 5:37–39
alcohol
  effects on behavior, 6:78
  effects on cancer, 8:153–158, 8:161–163, 8:302, 8:313–314, 8:319
alligators (*Alligator mississippiensis*)
  effects of estrogenic contaminants on, 4:31–35
amphibians. *See also* frogs; salamanders
  effects of contaminants on development, 4:13–16
Ancylobacter aquaticus, biodegradation of ethylene chloride, 5:29–31
anencephaly, 6:165–170
aniline contamination in groundwater and soil, 5:71–73
antimutagens, 8:178–180
antioxidants
  in adipose tissue, 3:101–102
  and free radical scavengers, 8:179
aquifer bioaugmentation, 5:118
Aroclors. *See* polychlorinated biphenyls
aromatase
  in fish brain, 7:51–55
  in male reproductive system, 7:59–61
arsenic
  effects on lipid peroxidation in rat tissues, 1:85–88
  movement in the Aberjona watershed, 1:35–39
asbestos
  effects of exposure on humans, 6:21–22
asthma, 6:243–246. *See also* respiratory tract
  basic mechanisms of, 6:229–232
  effects of air pollution on, 6:50–52, 6:209–210, 6:232, 6:235–239, 6:249–251, 6:253–267
  effects of dust mites on, 6:55–57, 6:59–61
  increasing morbidity and mortality of, 6:229–230
  occupational, 6:249–251
  prevention of, in children, 6:55–57, 6:59–61
autoimmunity, 9:18–19
  induced by mercury, 9:25
azo dyes, 5:17–19
azoreductase, 5:17–19

B

bacteria
  anaerobic tetrachloroethene dechlorination by, 5:5–7
  biodegradation by, 5:9–11, 5:17–19, 5:21–23, 5:29–31, 5:37–39, 5:45–47, 5:79–82
  growth of, under hypoxic conditions, 5:49–51
  infection as a cause of cancer, 8:263–266
  interactions of, with metals in aquatic ecosystems, 1:25–27
bacteria, *continued*
  metabolism of chloromethane and dichloromethane by, 5:33–35
  metabolism of organohalides by, 5:45
  in sewage-polluted water, 1:94–97
  transport of trace metals in soil by, 1:53–57
bald eagles (*Haliaeetus leucocephalus*), reproductive success of, 4:51–58
bananas, pesticide residues in, 6:13–17
behavior. *See also* neurobehavior
  effects of race and gender on tobacco smoking, 8:131–140
  effects of toxicants on, 6:77–78
  swimming, in *Daphnia*, 4:8–10
  tests of, 6:149–150
behavioral toxicology, 6:77–78
beluga whales (*Delphinapterus leucas*), effects of contaminants on, 4:73–75
benzene, biodegradation of, 5:49–51, 5:85–87
bioaccumulation of organic chemicals in water, 5:53–57
bioantimutagens, 8:178
bioaugmentation, 5:117–118
bioavailability, 5:93–95
biodegradation, 5:3, 5:5–7, 5:121–123
  of aniline, 5:71–73
  by bacteria, 5:117–119
  of benzene, toluene, ethylbenzene, xylenes, 5:49–51, 5:85–87
  of chlorinated solvents, 5:101–104
  of contaminants in soil, 5:13–15, 5:93–95
  of 1,2-dichloroethane, 5:29–31
  of dichlorophenoxyacetic acid (2,4-D), 5:37–39
  enhancement of by plasmid transfer, 5:113–115
  of extracellular polymers, 1:56–57
  of fossil fuel, 5:79–82, 5:81–82
  of gas phase volatile organic compounds, 5:75–77
  of halogenated compounds, 5:29–31
  of metal-contaminated soil, 1:59–61
  of organic halogens from kraft pulp bleaching, 5:63–68
  of organohalides, 5:45–47
  by *Phanerochaete chrysosporium*, 5:59–60
  of phthalates, 5:9–11
  of polyaromatic hydrocarbons (PAHs), 5:41–42, 5:107–110
  of polychlorinated biphenyls (PCBs), 5:21–23, 5:97–99
  of trichloroethylene, 5:101–104
  use of cytochrome P450 in, 5:25–27
  of volatile organic compounds in soil, 5:75–77
biological monitoring, 3:3–7, 3:9–12, 3:13–28, 3:31–34, 3:35–42, 3:45, 3:49–50, 3:61–66, 3:81–82, 3:89–90
biomarkers, 3:3–7, 3:45–48, 3:61–66, 3:69–74, 3:81–84
  bone lead measured by X-ray fluorescence, 1:105–108
  in cancer, 8:291–293, 8:233–235, 8:309
  cell proliferation, 7:115–116
  for contaminants in the Great Lakes, 9:7–14
  detection of genotoxic damage by, 1:111–112
  in dose–response assessment, 3:10–12
  of environmental exposure in children, 6:99–103, 6:105–108
  in exposure assessment, 3:13–28, 3:31–34, 3:49–53
  in hazard identification, 3:10
  16α/2-hydroxyestrone, 7:147–149
  interpretation of test results, 3:69–74
  of lead, 3:45–46
  in occupational cancer epidemiology, 8:213–214
  role in study of exposure to dioxin-like compounds, 2:161–165
  of serum samples, 3:85–88
  of tetrachlorodibenzo-*p*-dioxin (TCDD), 3:46–47
  vitellogenin, 4:23, 7:9–14, 7:173–177
  of volatile organic compounds, 3:47–48, 3:89–93
bioremediation. *See* biodegradation
biosurfactants, use in biodegradation of contaminated soil, 1:59–61
birds
  effects of contaminants on
    bald eagles, 4:51–58
    great blue herons, 4:61–65
    sea ducks, 4:41–47
    surf scoters, 4:41–47
    wood ducks, 4:37–39
  effects of organochlorine pesticides on, 7:165–169

bisphenol A, estrogenic effects of, 7:21–22, 7:129–132
bones
  effects of developmental hormone exposure, 7:79–81, 7:95–96
  lead content of, measured by X-ray fluorescence, 1:105–108
bottlenose dolphins (*Tursiops truncatus*), effects of polychlorinated biphenyls and DDT on immune response, 4:67–71
bph gene, 5:21–23
brain
  of great blue herons, 4:61–65
  as target of toxicity during development, 6:73–75
  tumors
    in childhood, 6:177–181
    effects of electromagnetic fields on, 2:69–73
breast cancer, 8:166–168, 8:185–188, 8:277
  effects of DDT on, 6:87–90
  effects of pesticides on, 7:141–144, 7:147–149
  effects of phytoestrogens on, 7:105–108
breath measurement method of detecting exposure to volatile organic compounds, 3:95–97
brevotoxin, 4:68
bromoform, dehalogenation of, 5:89–90
Burkitt's lymphoma, link with Epstein-Barr virus, 8:259–261, 8:270–271
buthionine sulfoximine depletion of glutathione, 1:86–88

C

cadmium, 4:41–47
  in birds, 4:41–47
  immunotoxicity of, 9:28–30
  in mussels, 4:42–43
  uptake by rat hepatocytes and renal cortical epithelial cells, 1:73–75
cancer. *See also cancer types*
  after exposure to electromagnetic fields, 2:59–61, 2:63–65, 2:69–73
  association with specific food components, 8:180–182
  childhood, 6:111–115, 6:177–181, 6:173–175
  effects of alcohol on, 8:153–158
  effects of diet on, 8:168–169, 8:171–174, 8:177–182
  effects of nonhormonal drugs on, 8:191–193
  effects of occupational exposures on, 8:197–202
  effects of race and gender on, 8:131–140, 8:145–146, 8:275–279, 8:283–285, 8:319–320
  effects of viruses on, 8:259–261, 8:269–272, 8:304
  etiology of, 8:307–310
  familial, 6:37–38
  genetic susceptibility to, 8:291–293, 8:297–299
  induced by radiation exposure, 6:41–43, 8:241–243, 8:245–248
  laryngeal cancer, 8:154–155
  link with agricultural exposures, 8:205–207
  link with bacterial infections, 8:263–266
  lymphoma, 8:265
  multiple myeloma, 8:279
    risk from radon exposure, 2:37–41, 2:45–47, 2:49–52, 2:55–57
  nasopharyngeal carcinoma, link with Epstein-Barr virus, 8:271
  occupational, 8:197–202
    etiologic research in, 8:209–214
  oral and pharyngeal, 8:153–154, 8:275
  pancreatic, 8:157
  retinoblastoma, 8:298
  Sixth Plot of the Carcinogenic Potency Database, 8:3–122
  testicular, 7:137–138
  thyroid, 6:42–43
  ultraviolet-associated, 8:251–253, 8:255–256
cancer prevention 8:129, 8:233–235, 8:237–239, 8:301–305, 8:307–310, 8:313–317
  of alcohol-related, 8:161–163
  effects of diet on, 8:165–169
  of estrogen-related, 8:185–188
  in Hispanic populations, 8:287–289
  of occupational, 8:197–202, 8:217–218
  of radiation-caused, 8:241–243, 8:245–248
  of tobacco-related, 8:149–152
  of ultraviolet-associated, 8:255–256
  virus-associated, 8:269–272
carbaryl, 4:7–10
carcinogenesis
  role of estrogens in, 7:63–66
  role of nonhormonal drugs in, 8:191–193
carcinogenicity studies, 6:173–175
Carcinogenic Potency Database, 8:3–6
carcinogens
  human, 8:191–193
  methods of obtaining data, 8:292–293
  occupational, 8:209–214
carotenoids, effects on cancer, 8:180
cell proliferation as a marker of estrogenicity, 7:115–116
central nervous system
  effects of contaminants on, during development, 6:73–75, 6:163–164, 6:165–170
  effects of estrogen on, in goldfish, 7:51–55
  of great blue herons, 4:61–65
chemoprevention, 8:299
children
  asthma in, 6:55–57, 6:59–61
  cancer in, 6:111–115, 6:173–175, 6:177–181
  dietary exposure to contaminants in, 6:45–47
  differences from adults, 6:99–100
  effects of contaminants on, 6:3–5, 6:7–10, 6:19–22, 6:33–34, 6:49–52, 6:197–203
  Hispanic, environmental health of, 6:25–31
  involvement in environmental issues, 6:63–66
  neural tube defects in, 6:166–167
  risk assessment of pesticides in, 6:159–162
  susceptibility to radiation-induced cancers in, 6:41–43
Childrens Cancer Group Epidemiology Program, 6:111–115
chlorinated hydrocarbons, 3:101–104, 5:29–31
chlorinated methanes, 5:33–35
chlorine and cancer risk, 8:226–227
chlorodane, immunotoxicity of, 9:57
chloromethane metabolism by bacteria, 5:33–35
chlorophenol in groundwater and soil, 5:63–68
Choborus, 4:7–10
chromium
  in groundwater in Mexico, 1:47–51
  removal from wastewater, 1:63–65
chromosomal aberrations as biomarkers of genotoxic damage, 1:111–112
cigarettes. *See also* tobacco smoking
  effects of low tar and low nicotine,8:144–145
Clean Air Act, 6:213–221, 6:235–239
Clostridium, 5:17–19
coal-tar disposal sites, 5:107–110
cobalt phthalocyanine, 5:89–90
colorectal cancer, 8:156, 8:165–166, 8:173–174, 8:264–265, 8:276
Comamonas testosteroni YZW-D, 5:9–11
co-metabolism, 5:45–47, 5:101–104
communication
  importance in prevention of cancer, 8:217–218
  between scientists and the public, 6:123–125, 6:127–130, 6:131–133
complexation of trace metals with humic acid, 1:29–32
complex mixtures of organics and metals, nephrotoxicity of, 1:67–71
contaminants, 4:3–4, 4:51–58, 5:3. *See also* biological monitoring; Great Lakes
  in aquatic environments, 7:173–177
  biodegradation of, in soil, 5:13–15
  biomarkers of exposure, 6:99–103, 6:105–108
  in children, 6:7–10, 6:19–22, 6:33–34, 6:45–47
  determination of exposure by surveys, 3:55–56
  in drinking water sources, 8:225–230
  effects on cancer, 8:284
  effects on development, 4:7–10, 4:13–16, 7:157–162
  effects on evolution, 4:93–98
  effects on neural tube defects, 6:165–170
  effects on reproduction, 4:7–10, 4:13–16, 4:19–23, 4:31–35, 4:37–39, 4:51–58, 4:73–74, 4:79–84, 4:87–89, 9:63–67
  effects on swimming behavior in *Daphnia*, 4:7–10
  environmental exposures to, 9:17–20
  estrogenic, 4:19–23, 4:31–35, 7:3–4, 7:113–120

contaminants, *continued*
in food, 9:23–30
in groundwater, 5:5–7
in human milk, 6:197–203
in industrial waste in the Aberjona River, 6:93–98
in Mexico, 1:7–8, 1:63–65, 1:93–97
multigenerational consequences of, 4:4
occupational exposures to, 9:9–14
prevention of prenatal exposure to, 6:143–145
risk assessment of, 1:89–91, 3:9–12
risks to Hispanics, 6:25–31
role in green turtle fibropapillomatosis, 4:27–29
in soil, 5:13–15, 5:85–87, 5:93–95
contraceptives. *See* oral contraceptives
coumestrol, 7:125–126
creosote in soil, 5:79–82
cross talk between peptide growth factors and estrogen receptors, 7:35–38
crude oil biodegradation of in bacterial cultures, 5:81–82
cryptorchidism in Florida panthers, 4:79–84
cytochrome P450, 5:25–27, 5:45–47
cytochrome P450 aromatase. *See* aromatase

D

Daphnia, 4:7–10
DDE [1,1,1-trichloro-2-2,bis(*p*-chlorophenyl)ethylene], 4:51–58, 4:79–84
o,p-DDT {1-chloro-2[2,2,2-trichloro-1-(4-chlorophenyl)ethyl]benzene}, 4:19–23
DDT [1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethane], 4:51–58, 4:67–71
effects of exposure on humans, 6:21
effects on breast cancer, 6:87–90, 7:141–144
effects on reproduction and development, 9:65
in human milk, 6:198
immunotoxicity of, 9:57
dechlorination
of polychlorinated biphenyls by anaerobic bacteria, 5:21–23, 5:97–99
of tetrachloroethene, 5:5–7
dehalogenation of bromoform, 5:89–90
desmutagens, 8:178–179
detoxification. *See* biodegradation
development
in amphibians, 4:13–16
biomarkers of exposure during, 6:105–108
effects of diethylstilbestrol on, 7:83–86
effects of dioxins on, 7:89–92
effects of estrogens on, 7:63–66, 7:69–72, 7:79–81, 7:95–96, 7:137–138, 7:157–162, 7:165–169
exposure to contaminants during, 4:7–10, 4:61–65, 6:7–10, 6:82–83, 6:117–121, 6:135–140
exposure to dioxin-like compounds during, 2:135–142, 2:143–145, 2:147–149, 2:151–154, 2:157–159, 2:161–165
dibenzofurans, effects on reproduction and development, 9:66–67
1,2-dichloroethane, biodegradation of, 5:29–31
dichloroethylene, bidegradation of, 5:101–104
dichloromethane metabolism by bacteria, 5:33–35
dichlorophenoxyacetic acid (2,4-D), biodegradation of, 5:37–39
dieldrin, 4:53–54
immunotoxicity of, 9:57
diet
antimutagens in, 8:178–180
effects on cancer, 8:302–303, 8:314, 8:319, 8:165–169, 8:171–174, 8:177–182
effects on environmental exposures, 6:185–189
contaminant exposure in, 6:13–17, 6:45–47
and lead, 6:191–195
phytoestrogens in, 7:103–108
soy meal, 7:123–126
diethylstilbestrol (DES), 4:19–23. *See also* estrogens
effects of, 7:21–22, 7:79–81, 7:159–160
developmental exposure to, 7:70–72, 7:83–86, 7:95–96
neonatal mouse model, 7:79–81, 7:123–126
dioxin
biological monitoring of, 3:46–47
dioxin, *continued*
developmental effects of, 7:89–92
effects on the reproductive system, 7:151–155, 9:66–67
in human milk, 6:199
tetrachlorodibenzo-*p*-dioxin (TCDD)
effects on birds, 4:38, 4:61–65, 9:11–14
immunotoxicity of, 9:47–50
perinatal exposure to, 2:135–142, 2:143–145, 2:147–149, 2:151–154, 2:157–159, 2:161–165
toxic equivalents, 4:37–39, 4:51–58, 4:61–65., 9:11–14
dioxin-like compounds
perinatal exposure to, 2:135–137
endocrine effects of, 2:147–149
immunologic effects of, 2:157–159
neurobehavioral effects of, 2:151–154
reproductive effects of, 2:143–145
role of biomarkers, 2:161–165
DNA repair and genetic suceptibility for cancer, 8:292
dose–response assessment, 3:10–12
drugs
as cause of childhood cancer, 6:179
effects on cancer, 8:191–193, 8:303
dust mites, effects on childhood asthma, 6:55–57, 6:59–61

E

earthworms (*Eisenia fetida andrei*), bioaccumulation of organic halogens by, 5:63–68
electrolysis of tetrachloromethane, 5:90
electromagnetic fields
carcinogenic effects of, 2:63–65, 8:304
childhood cancer after exposure to, 2:59–61, 6:179
occupational exposure to, 2:69–73
residential exposure to, 2:59–61
embryogenesis, function of estrogen receptors during, 7:69–72
endocrine disruptors, 4:19, 4:74, 4:79–84. *See also* estrogens
effects on wildlife, 6:81–84
endocrine system, effects of perinatal exposure to dioxin-like compounds on, 2:147–149
endometrial cancer, 8:185–188
endometriosis, 7:151–155
environment
aquatic systems, 1:25–27, 7:173–177. *See also* bacteria
arsenic in, 1:35–39
building materials friendly to, 6:67–70
carcinogens in, 6:177–181
effects of air pollution in, on cancer, 8:220–221
effects of motor vehicles on, 6:71–72
effects on cancer, 8:303, 8:315
effects on evolution, 4:94–98
metal contamination in, 1:13–16, 1:21–23, 1:33–34, 1:53–57
public policy, 1:89–91
radionuclides in, 9:89–100
environmental estrogens. *See* estrogens
environmental organizations, 6:63–66
environmental tobacco smoke, 6:28–29, 6:55, 6:60, 8:139–140, 8:234
enzymes, biodegradation by, 5:17–19, 5:29–31, 5:37–39, 5:45–47
Environmental Protection Agency, U.S.
biologic monitoring, involvement in, 3:3–7
testing and registration of pesticides, 6:154–158
epidemiology
air pollution studies, 2:3–11, 2:15–21, 2:23–25, 2:29–34
asthma, 6:243–246
cancer, 8:207, 8:307–310
effects of air pollution, 8:219–223
effects of alcohol use, 8:153–158, 8:161–163
effects of occupational exposure, 8:197–202, 8:209–214
effects of organochlorine pesticides, 7:141–144
effects of race and gender, 8:283–285
effects of tobacco smoking, 8:143–146
inherited susceptibility, 8:297–299
radiation-induced, 8:245–248
skin, 8:251–253

epidemiology, *continued*
electromagnetic field studies, 2:59–61, 2:69–73
exposure assessment in, 3:3–7, 3:14–15, 3:31–34, 3:45–48, 3:49–53, 3:99–104
measurement of bone lead, 1:105–108
radon studies, 2:37–41, 2:49–52, 2:55–57
transitions following economic development, 8:288
use of biomarkers in, 6:107–108, 8:233–235
epidermal growth factor (EGF), 7:35–38
regulation of the lactoferrin gene, 7:17–19
Epstein-Barr virus, link with cancer, 8:259–261, 8:270
E-SCREEN assay, 7:113–120
esophageal cancer, 8:155
17β-estradiol, 4:19–23, 4:31–35, 7:21–22, 7:35–38, 7:41–48, 7:129–132
estrogenicity, techniques for detection of, 7:5–7
estrogen receptor, 7:23–26, 7:29–32, 7:85–86
accessory proteins, 7:23–26
cross talk with peptide growth factors, 7:35–38
in embryos, 7:69–72
on plasma membrane, 7:41–48
estrogen response elements, 7:23–26, 7:29–32
estrogens, 7:9–14, 7:23–26, 7:41–48
effects of, 7:3–4, 7:21–22, 7:51–55, 7:79, 7:135–136, 7:173–177
on development, 7:63–66, 7:69–72, 7:79–81, 7:83–86, 7:95–96, 7:157–162
effects on endometriosis, 7:151–155
effects on males, 7:60–61, 7:123–126, 7:137–138
environmental, 4:19
identification of, 7:113–120
link with cancer, 7:3–4
mechanisms of action, 7:39
mimics, 4:9
pesticides as, 7:141–144, 7:147–149, 7:165–169
regulation of the lactoferrin gene by, 7:17–19
role in temperature-dependent sex determination, 7:73–77
sources in *in vitro* systems, 7:129–132
toxicity of, 7:29–32
varied chemical structures of, 7:99–101
Estrogens in the Environment III, 7:3–4
ethics in specimen banking and surveys, 3:69–74, 3:75–80
ethylbenzene, biodegradation of, 5:49–51
Europe, air pollution in, 2:15–21, 2:23–25
evolution, role of metals in, 1:9–11
exposure assessment, 3:3–7, 3:89–93, 8:206–207
biological monitoring in, 3:13–28, 3:45–48, 3:49–53, 3:81–84
in children, 6:46–47
of electromagnetic fields, 2:69–73
of hazardous waste sites, 1:99–103
measurement methods of, 3:35–42
national probability sample surveys for, 3:55–59
of urban air toxics, 6:256–261
use in specimen banking, 3:31–34
use of adipose tissue in, 3:99–104
exposure–dose relationships, 3:13–28

F

farmers and farmworkers, cancer in, 8:205–207
fatty acids, 3:101–104
fish
effects of estrogens on, 7:173–177
goldfish as a model for estrogen action, 7:51–55
Great Lakes contaminants in, 9:35–43
folic acid, prevention of neural tube defects, 6:163–164
food chain
aquatic, 4:8–10
contaminants in, 4:87
effects on wildlife, 4:82–83, 5:53–57
fossil fuel, biodegradation by bacteria, 5:79–82
frogs
Rana, 4:13–16
Xenopus laevis, 4:14–15, 4:19–23

G

gender. *See* race and gender
genetic susceptibility for cancer, 6:38, 8:291–293, 8:297–299, 8:304, 8:316
genotoxic monitoring. *See* biological monitoring
glucosinolates, effects on cancer, 8:181
glutathione
effects of mercuric chloride and sodium arsenite on toxicity in rabbit renal cortical slices, 1:81–83
relationship with arsenic levels, 1:85–88
gonadal steroidogenesis in alligators, 4:31–35
great blue herons (*Ardea herodias*), 4:61–65
Great Lakes, contaminants in, 9:3–5, 9:7–14, 9:23–30, 9:35–43, 9:55–59, 9:63–67, 9:71–81, 9:103–111
Great Lakes basin, radionuclides in, 9:89–100
"green" building materials, 6:67–70
groundwater
bioremediation of, 5:49–51
contamination in, 5:5–7, 6:93–98
aniline, 5:71–73
arsenic, 1:35–39
chlorophenol, 5:63–68
chromium, 1:47–51
metals, 1:29–32
transport in, 1:41–46, 5:53–57
growth abnormalities after exposure to polychlorinated biphenyls and dibenzofurans, 6:117–121
GSTM1, 8:291–292

H

halogenated aliphatic compounds, genetic adaptation of bacteria to, 5:29–31
halogenated aromatic hydrocarbons in the Great Lakes, 9:7–14
hazardous waste sites
exposure assessment of, 1:99–103
genotoxic monitoring of workers at, 1:111–112
health surveys, 3:55–59, 3:75–80
heat shock proteins, 7:23–26
Helicobacter pylori, link with gastric cancer, 8:263–266
hepatitis B virus, link with cancer, 8:259–261
hepatocytes, uptake of cadmium by, 1:73–75
hexachlorobenzene
effects of exposure on humans, 6:20
effects on reproduction and development, 9:64–65
immunotoxicity of, 9:56
hexachloroethane, 9:65
Hispanics
barriers to health care, 8:287–288
cancer prevention, 8:287–289
children's health, 6:25–31
neural tube defects, 6:163–164
Hodgkin's disease, link with Epstein-Barr virus, 8:259–261
hormones, 4:3, 4:9
disruption of, 4:96–97
effects on cancer, 8:185–188, 8:314
17β-estradiol, 4:19–23, 4:31–35, 4:79–84
mimics, 4:35
replacement therapy, 8:185–188
testosterone, 4:31–35, 4:79–84
human health effects of contaminants in the Great Lakes, 9:3–5, 9:7–14
human papilloma virus, link with cancer, 8:259–261
humic acid complexation with trace metals, 1:29–32
16α/2-hydroxyestrone as a biomarker of breast cancer risk, 7:147–149

I

ICI 164, 7:24–25, 7:36–37
immune system
effects of cadmium on, 9:29–30
effects of immunotoxicants on, 9:17–20
effects of lead on, 9:26–28
response in endometriosis, 7:151–155
response to ozone, 2:77–86

immunosuppression
in amphibians, 4:14–15
in beluga whales, 4:73–75
in bottlenose dolphins, 4:67–71
effects on after exposure to dioxin-like compounds, 2:157–159
in *Xenopus*, 4:14–15
immunotoxicity
chemically induced, 9:17–20
of halogenated aromatic hydrocarbons, 9:47–50
of heavy metals, 9:23–30
pesticide-induced, 9:55–59
of polychlorinated hydrocarbons, 9:35–43
of TCDD and halogenated aromatic hydrocarbons, 9:47–50. *See also* dioxin
inactivators and modulators, 8:179
indoor air pollution, 6:28–29, 6:55–57, 6:258–260
insulinlike growth factor I (IGF-I), 7:35–38
invertebrates, importance of, 4:7
isoflavonoids, 7:103–108
isophthalate, 5:9–11

J

JANUS Serum Bank, 3:85–88
JMP134 tfd gene product from *Alcaligenes eutrophus*, 5:37

K

kairomones, 4:7–10
α-ketoglutarate, 5:38–39
kidneys
effects of complex mixtures of organics and metals on, 1:67–71
effects of mercuric chloride and sodium arsenite, 1:81–83
uptake of metals by, 1:73–75, 1:77–79
kraft pulp mill, wastewater from chlorobleaching, 5:63–68

L

lactoferrin (mouse), 7:17–19
lead
biological monitoring of, 3:45–46
in bone measured by X-ray fluorescence, 1:105–108
and diet, 6:186–187, 6:191–195
effects on behavior, 6:77
effects on humans, 6:20–21
immunotoxicity of, 9:26–28
neurotoxicity of, 9:71–81
leukemia,
childhood, 6:93–98, 6:177–181
effects of exposure to electromagnetic fields, 2:59–61, 2:69–73
radiation-induced, 6:42
Li-Fraumeni syndrome, 6:38
lignans, 7:103–108
ligninolytic fungi, biodegradation by, 5:41–42, 5:59–60
linoleic acid and omega-3 fatty acids, effects on cancer, 8:182
lipid peroxidation, correlation with arsenic levels, 1:85–88
liver cancer, 8:156–157
lung cancer, 8:131–140, 8:145–146, 8:168, 8:276–277
effects of environmental smoke on nonsmokers, 8:139–140
histology of, 8:143–146
mortality of, 2:45–47, 8:131–140
risk from air pollutants, 2:19–20, 2:24–25, 8:219–223

M

macrophages, response to ozone, 2:77–86
marine mammals
beluga whales *(Delphinapterus leucas)*, 4:73–75
bottlenose dolphins *(Tursiops truncatus)*, 4:67–71
effects of contaminants on, 4:73–75
mass transfer analysis, 5:75–77
measurement methods for exsposure assessment, 3:35–42
mechanism of absorption of contaminants into skin, 9:105–111
mercuric chloride, effects on toxicity and uptake of in rabbit renal cortical slices, 1:81–83
mercury, 4:79–84. *See also* methylmercury
effects of, 6:21, 6:77–78, 9:24–26
metabolism of contaminants in children, 6:9
metal-binding proteins, effects on cancer, 8:181
metals, 1:3–5
biodegradation of, in soil, 1:59–61
complexation with humic acid, 1:29–32
contamination, 1:7–8, 1:33–34, 9:104–105
immunotoxicity of, 9:23–30
interactions with bacteria, 1:25–27, 1:53–57
in kidney, 1:67–71, 1:77–79
oxidation–reduction reactions, 1:17–19
role in evolution, 1:9–11
speciation of, 1:13–16, 1:21–23
toxicity of, 1:9–11
transport in cells, 1:73–75
metamorphosis, amphibian, 4:14–15
methylmercury
neurobehavioral effects of, 6:135–140
neurotoxicity of, 9:71–81
poisoning, 6:21, 6:77–78, 6:136–137
Mexico, environmental pollutants, 1:25–27, 1:33–34, 1:93–97
microbial ecology, 3:117–119
microtubule polymerization, effects of estrogens on, 7:21–22
milk, human, contaminants in, 6:197–203
Minamata disease, 6:21, 6:77–78, 6:136, 9:76
mineralization, 5:107–110
minorities, disproportionate exposure to contaminants, 6:33–34
models
of biodegradation, 5:75–77, 5:85–87
of chemical dose to humans, 5:53–57
of estrogen effects in reptiles, 7:157–158
of human estrogen receptor-associated proteins, 7:26
of linear relative risk for lung cancer mortality, 2:49–52
neonatal diethylstilbestrol mouse, 7:79–81, 7:123–126
for occupational asthma, 6:251
for ozone, 2:107–131, 2:111–131
polymer-facilitated transport, 1:56–57
of transport processes of natural organic matter in groundwater, 1:41–46
molecular epidemiology and cancer prevention, 8:233–235
morbillivirus, 4:68
mortality
effects of air pollution on, 2:4–11, 2:15–16, 2:23–24, 2:31–33
effects of tobacco smoking on, 8:131–140
motor vehicles, effects on the environment, 6:71–72

N

N-acetyl-L-cysteine stimulation of glutathione, 1:86–88
nahAC genes, 5:107–110
naphthalene, 5:107–110
National Academy of Sciences, *Pesticides in the Diets of Infants and Children*, 6:159–162
National and Hispanic Health and Nutrition Examination Survey, ethical considerations in, 3:75–80
National Biomonitoring Specimen Bank (NBSB), 3:61–66. *See also* specimen banking
National Hispanic Leadership Initiative on Cancer: En Acción, 8:288–289
neoplasms, site-specific associated with drinking water, 8:228–230
nephrotoxicity of mixtures of organics and metals, 1:67–71
neural tube defects
among populations of Mexican descent, 6:163–164
role of contaminant exposure, 6:165–170
neurobehavior, 6:147–150
effects of contaminants on, 9:71–81
effects of methylmercury on, 6:135–140
effects of perinatal exposure to dioxin-like compounds on, 2:151–154
neurotoxicity
of lead, 9:71–81
of methylmercury, 9:71–81
of polychlorinated biphenyls, 9:71–81

neurotoxicology, developmental, 6:147–150
nicotine addiction, 8:149–150
nitrogen dioxide, 6:239
nitroreductase, 5:17–19

O

occupational carcinogens, sources of data, 8:197–198
occupational exposures
  to air pollution, 8:220
  effects on cancer, 8:197–202, 8:200–201, 8:209–214, 8:303, 8:314–315
  link with neural tube defects, 6:166–167
  to pesticides, 6:28, 9:57–58
oncogenesis, 6:37–38
oral contraceptives, effects on breast and endometrial cancers, 8:185–188
organic matter, transport in groundwater, 1:41–46
organochlorines, contamination in water, 9:104
organohalides
  biodegradation of, 5:63–68
  environmental detoxification by co-metabolic enzymes, 5:45–47
organophosphorus pesticides, immunotoxicity of, 9:56
organopollutant degradation, 5:41–42
oxidation of metal ions, 1:17–19
oxygen in contaminated environments, 5:49–51
oysters (*Crassostrea virginica*), concentrations of metals in, 1:33–34
ozone, 2:3–11, 6:238–239
  effects on airway epithelial cells, 2:91–94
  effects on asthma, 2:97–101, 2:103–105
  effects on immune function, 2:77–86
  relationship of levels to temperature, 2:99–100

P

panthers, Florida (*Felis concolor coryi*), reproductive impairment in, 4:79–84
parthenogenesis in *Daphnia*, 4:9
particulate matter, 2:3–11, 2:29–34, 6:237–238
PBBs. *See* polybrominated biphenyls
PCBs. *See* polychlorinated biphenyls
PCDDs. *See* polychlorinated dibenzodioxins
PCDFs. *See* polychlorinated dibenzofurans
pediatrics, 6:99–103. *See also* children
peptide growth factors, cross talk with estrogen receptor, 7:35–38
peroxidases
  biodegradation by, 5:59–60
  in fungi, 5:41–42
pesticides, 6:153–158
  effects on behavior, 6:78
  effects on birds, 7:165–169
  effects on breast cancer risk, 7:141–144
  effects on children, 6:13–17, 6:180
  effects on farmers and farmworkers, 6:28, 8:205–207
  effects on immune function, 9:55–59
  endocrinological effects on wildlife, 6:81–84
  estrogenic effects of, 7:147–149
  in human milk, 6:197–203
  the National Academy of Sciences recommendations for, 6:159–162
  Pesticides in the Diets of Infants and Children, 6:159–162
  residues in food, 6:45–47
Phanerochaete chrysosporium biodegradation of polycyclic aromatic hydrocarbons, 5:41–42
phenanthrene, 5:107–110
  aging of in soil, 5:93–95
phenolic compounds, effects on cancer, 8:181
photolysis of bromoform, 5:89
phthalates, 5:9–11
phytoestrogens, 7:123–126, 7:160–161. *See also* estrogens
  effects on cancer, 8:181–182
  possible role in cancer protection, 7:103–108
phytoremediation of metal-contaminated soil, 5:13–15
plasmid transfer, 114
plastics, estrogens in, 7:116, 7:131–132
p-nonylphenol, 7:116
policy, 6:3–5, 6:143–145, 6:185–189, 6:213–221
  for prevention of contaminant exposure, 6:81–83, 6:143–145
  for prevention of tobacco-caused cancer, 8:151
pollutants. *See* air pollution; contaminants
polybrominated biphenyls (PBBs), effects on humans, 6:22
polycarbonate, estrogens in, 7:131–132
polychlorinated biphenyls (PCBs), 4:51–58, 4:67–71, 4:73–75, 4:79–84, 5:97–99
  contamination in the Great Lakes, 9:8–10, 9:35–43, 9:65–66
  effects on breast cancer risk, 7:141–144
  effects on developmental exposure, 6:117–121
  effects on humans, 6:19–20
  effects on reproduction, 9:65–66
  effects on temperature-dependent sex determination, 7:75–77
  in human milk, 6:199–200
  immunotoxicity of, 9:35–43
  interaction of mixtures, 9:35–43
  metabolism of, 5:21–23. *See also* biodegradation
  neurobehavioral effects of perinatal exposure to, 2:151–154
  neurotoxicity of, 9:71–81
polychlorinated dibenzodioxins (PCDDs), 4:37–39, 4:61–65, 9:10–14
polychlorinated dibenzofurans (PCDFs), 4:37–39, 4:61–65, 9:10–14
  effects of developmental exposure, 6:117–121
polycyclic aromatic hydrocarbons (PAHs)
  biodegradation by bacteria, 5:79–82, 5:107–110
  biodegradation by *Phanerochaete chrysoporium*, 5:41–42
  nitrated, 5:17–19
polymers, extracellular, 1:53–57
population decline in marine turtles, 4:27
poverty, effects on cancer, 8:304
prolactin, 7:41–48
prostate
  cancer of, 7:107–108, 8:168, 8:278
  effects of estrogens on, 7:123–126
proton-induced X-ray emmission (PIXE), 1:77–79
protooncogenes
  c-*fos*, 7:29–32, 7:123–126
  c-*jun*, 7:29–32
  expression in mouse reproductive tract, 7:79
Pseudomonas
  aeruginosa, 5:79–82
  biodegradation by, 5:21–23
  extracellular polymers of, 1:54–55
  putida, 5:45–47, 5:107–110

R

race and gender
  effects on cancer, 8:316
  effects on tobacco smoking, 8:131–140
  and lung cancer risk, 8:145–146
radiation
  contamination, 9:94–95
  effects in children, 6:41–43, 6:178–179
  effects on cancer, 8:241–243, 8:245–248, 8:303–304, 8:315
  sources of, 9:89–90
radionuclides in the Great Lakes basin, 9:89–100
radon
  effects on cancer risk, 2:39, 2:49–52, 8:247–248
  exposure in homes, 2:37–41
  exposure to miners, 2:37–40, 2:45–47, 2:49–52, 2:55–57
recycling of building materials, 6:67–70
reduction of metal ions, 1:17–19
reproduction
  abnormal, in alligators, 4:31–35
  in beluga whales, 4:73–74
  in *Daphnia*, 4:9–10
  effects of DDT on, 4:22
  effects of dioxin-like compounds on, 2:143–145
  effects of estrogens during development, 7:83–86
  effects of Great Lakes contaminants on, 9:63–67
  and estrogens in males, 7:59–61, 7:137–138

reproduction, *continued*
in great blue herons, 4:61–62
impairment in wildlife, 4:13, 4:37–39, 4:51–58, 4:73–74, 4:79–84, 4:87–89
reptiles, effects of estrogens on, 7:157–162
research recommendations, for children, 6:3–5
respiratory tract. *See also* asthma; lung cancer
bronchial hyperreactivity, 6:230, 6:244
effects of air pollution on, 2:3–11, 2:15–21, 2:23–25, 2:29–34, 6:49–52
effects of ozone on, 2:91–94, 2:97–101, 2:103–105
rhizosphere. *See also* soil
biodegradation in, 5:13–15
risk assessment, 1:89–91, 3:3–7, 3:13–28, 3:45–48, 5:53–57, 6:153–158
for radiation, 9:98–100
recommendations of the National Academy of Sciences, 6:159–162
in regulatory decision making, 6:213–221
role of specimen banking in, 3:9–12

S

Saccharomyces cerevisiae, 7:129–132
salamanders, immune system in, 4:14
scavengers (non-oxygen), 8:179
science and the media, 6:123–125, 6:131–133
sea ducks, effects of contaminants on, 4:41–47
sediment, metal concentrations in, 1:33–34
selinium, 4:41–47
semen quality, 7:137–138
sewage systems
effects of pollution on fish, 7:174–175
pollution of water from, 1:94–97
sexual differentiation of birds and mammals, 7:166–167
sexual dimorphism, effects of steroid hormones, 7:79–81
sister chromatid exchange as a biomarker of genotoxic damage, 1:111–112
Sixth Plot of the Carcinogenic Potency Database, 8:3–122
skin
cancer, 8:251–253, 8:255–256
exposure to contaminants, 9:103–111
smoking. *See under* tobacco
sodium arsenite, effects on toxicity and uptake of in rabbit renal cortical slices, 1:81–83
soil
aniline contamination in, 5:71–73
biodegradation in, 1:59–61, 5:13–15, 5:21–23, 5:93–95
chromium in, 1:47–51
volatile organic compounds in, 5:75–77
solvents, effect on behavior, 6:78
sorption, of chemicals in soil, 5:93–95
soy diet, 7:123–126
speciation, of metals, 1:13–16, 1:21–23
specimen banking, 3:3–7, 3:78–80, 3:81–84
for biologic monitoring of volatile organic compounds, 3:89–93
collection and storage procedures, 3:63–65, 3:64–65
confidentiality and ethical considerations in, 3:69–71
in risk assessment, 3:9–12
of serum samples, 3:85–88
study design, 3:69–74
use in exposure assessment, 3:31–34
sperm, 7:59–61
spina bifida, 6:165–170
stomach cancer, 8:156, 8:263–264
styrene, exposure assessment of, 3:49–53
sulfur dioxide, 2:3–11, 2:15–21, 2:23–25, 2:29–34, 6:237
sunscreens, 8:252, 8:255–256
Superfund Basic Research Program, 1:3–5
surf scoters (*Melanitta perspicillata*), effects of contaminants on, 4:41–47
surveillance, 3:31–34. *See also* epidemiology
surveys, 3:55–59
survival fitness, 4:9

T

tamoxifen, effects on bones, 7:80
target-neighbor method of phytoremediation, 5:13–15
target organ, susceptibility to contaminants, 6:10
TCDD (tetrachlorodibenzo-*p*-dioxin). *See under* dioxin
temperature-dependent sex determination, 7:73–77
terephthalate, 5:9–11
testosterone, effect on goldfish visual system, 7:53–55
tetrachloroethene, dechlorination of using electron donors, 5:5–7
The Great Lakes Health Effects Program, 9:3–5
Third National Health and Nutrition Examination Survey (NHANES III), 3:55–59, 3:89–93
thyroid
cancer induced by radiation, 6:42–43
physiology of, 2:148–149
time–space scales, 5:53–57
tissue banking. *See* specimen banking
tissue culture of alligator gonads, 4:32–35
titanium dioxide, 5:89–90
tobacco. *See also* environmental tobacco smoke
carcinogenesis of, 8:313
effects on cancer, 8:319
excise taxes, 8:150–151
smokeless, as a cause of cancer, 8:138–139
smoking
benefits of cessation on reduced cancer risk, 8:135–137
as cause of childhood cancer, 6:179–180
effects of race and gender on behavior, 8:131–140
effects on asthma, 6:55–57, 6:59–61, 6:262–263
effects on cancer, 8:301–302
effects on cancer risk, 2:19–20, 2:24–25, 2:39–40, 2:49–52, 6:179–180
epidemiology of, 8:143–146
tocopherols, effects on cancer, 8:180–181
toluene, biodegradation of, 5:49–51, 5:85–87
toxicants. *See* contaminants
toxicity, reduction of, 5:3
transformation of solvents by microorganisms, 5:101–104
transforming growth factor-α (TGFα), 7:35–38
transport
of organic contaminants, 5:85–86
of trace metals in soil by bacterial polymers, 1:53–57
transportation, effects on community health, 6:71–72
1,2,4-trichlorobenzene, 9:65
1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethane. *See* DDT
1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethylene. *See* DDE
trichloroethylene, biodegradation of, 5:101–104
2,4,6-trinitrotoluene (TNT), oxidation by white rot fungi, 5:59–60
tumor promoters and protective agents, 8:193
tumors. *See also* cancer
in marine mammals, 4:75
tumor suppressors, 8:180, 8:298
turtles
green (*Chelonis mydas*), fibropapillomatosis in, 4:27–29
red-eared (*Trachemys scripta*)
temperature-dependent sex determination in, 7:73–77
vitellogenin induction by estrogens in, 4:19–23

U

ultraviolet radiation, effects on cancer, 8:251–253

V

veratryl alcohol, oxidation by lignin peroxidases, 5:59–60
viruses, effects on cancer, 8:259–261, 8:269–272, 8:304, 8:315
vitamins and related compounds, effects on cancer, 8:180
vitellogenin
bioassay for estrogen exposure, 4:19–23
as a biomarker, 7:9–14, 7:173–177
production of antibodies, 7:9–14
volatile organic compounds (VOCs), 1:95–97, 3:89–93

W

water
cleanup of wastes, 1:63–65
drinking, contaminants in, 6:29, 8:225–230
water quality monitoring program in Nogales, Sonora, 1:93–97
watersheds, movement of arsenic in, 1:35–39
white rot fungi *(Phanerochaete chrysosporium)*, biodegradation of lignin and chemicals, 5:59–60
wildlife, 4:7
consensus statement, 4:3
declines in population, 4:3
effects of contaminants on, 6:14–15
effects of estrogens on, 7:3–4, 7:135–136, 7:157–162
endocrinological effects of pesticides on, 6:81–84
estrogenic effects of pollutants on, 4:23
recommendations for environmental risk assessment, 4:87–89
Woburn, Massachusetts, 6:93–98
wood ducks (*Aix sponsa*), effects of polychlorinated dibenzo-*p*-dioxins and dibenzofurans on, 4:37–39

X

Xanthobacter autotrophicus, biodegradation of 1,2-dichloroethane, 5:29–31
X-ray fluorescence, measurement of bone lead by, 1:105–108
xylenes, biodegradation of, 5:49–51, 5:85–87

Y

Yu-Cheng, 6:117–121, 9:10, 9:41
Yusho, 6:19–20, 9:10, 9:40–41

Z

zooplankton, 4:7–10